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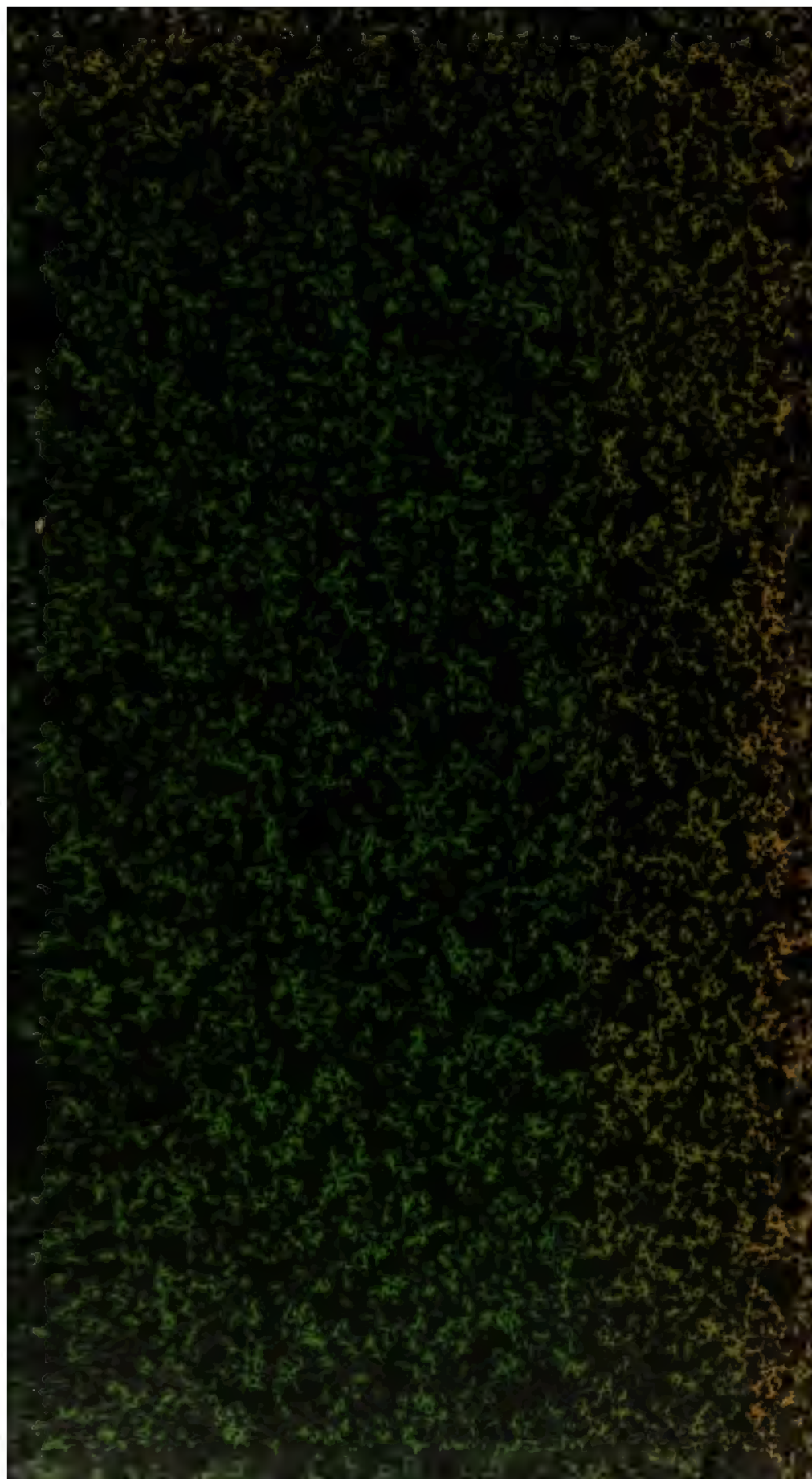
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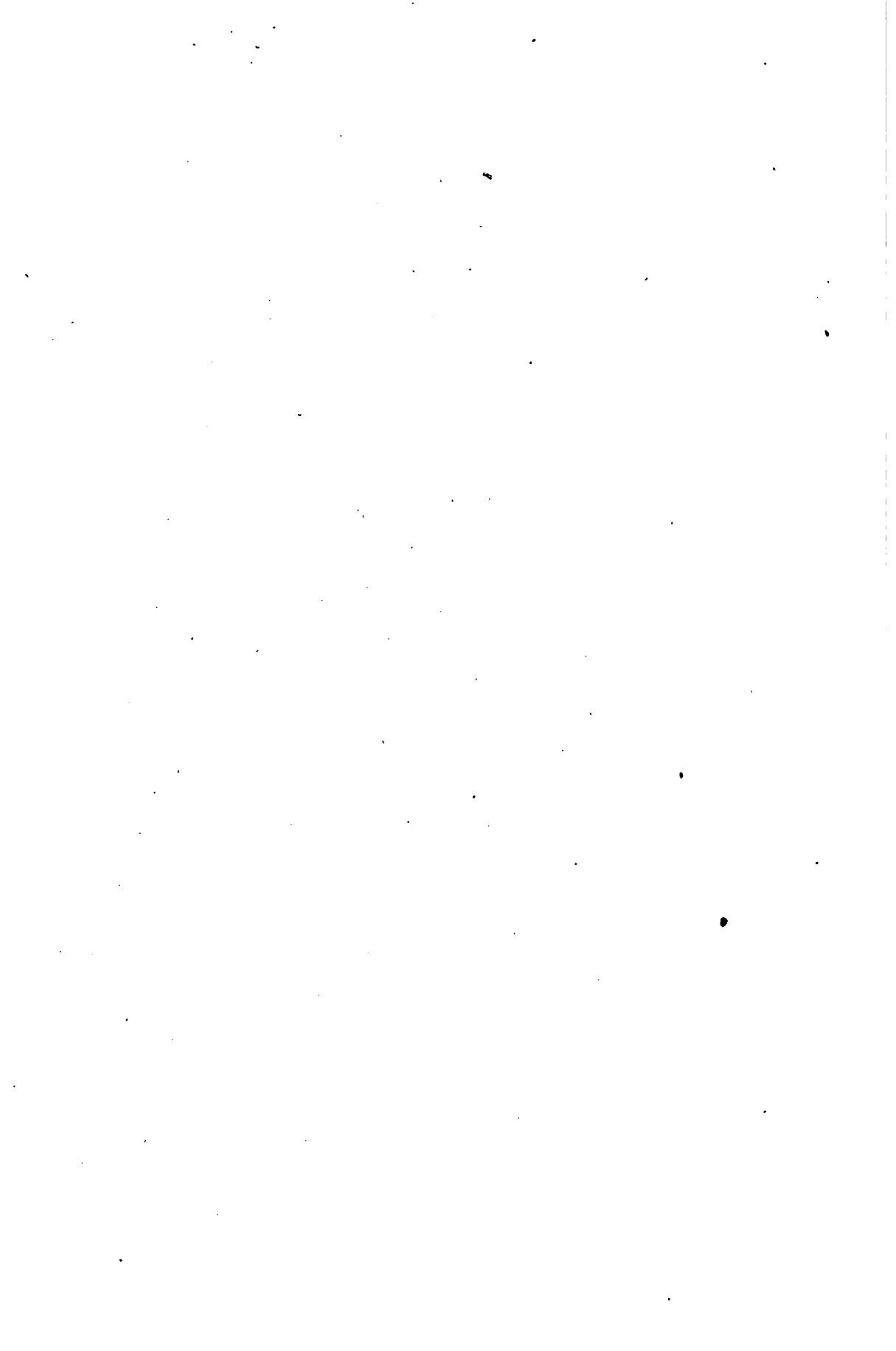


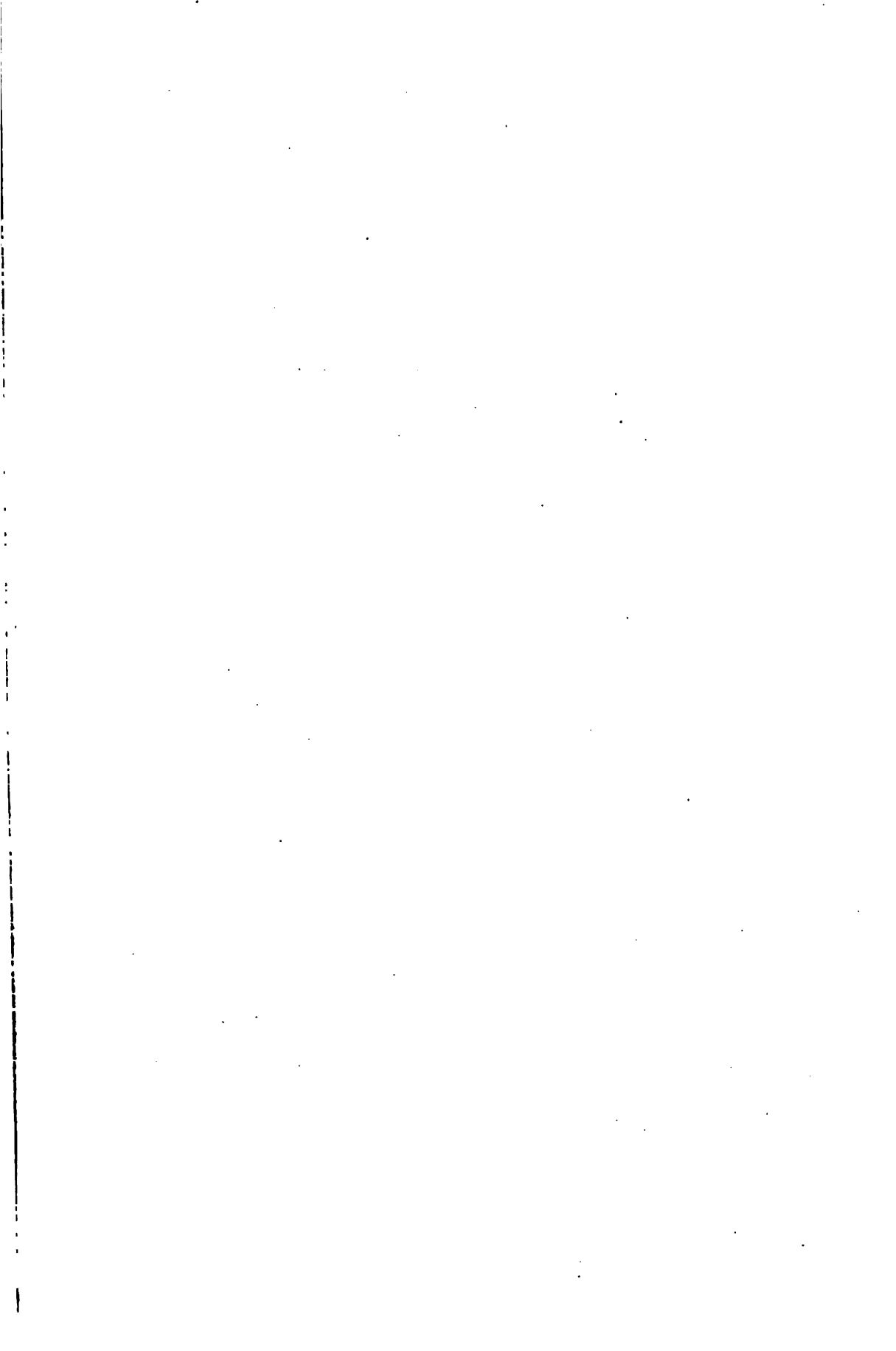




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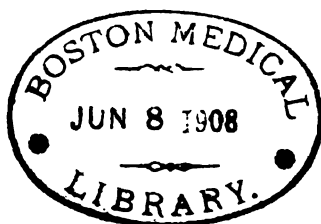
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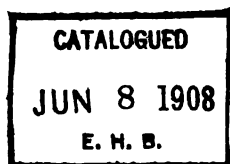
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# THE COLORADO MEDICAL JOURNAL

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No. 1

## ORIGINAL COMMUNICATIONS.

### Light—Its Therapeutic Importance in Tuberculosis as Founded Upon Scientific Researches.

By J. MOUNT BLEYER, M. D., F. R. A., M. S., LL. D., New York City.

Chairman Section on Light and Electricity, American Congress on Tuberculosis, held at St. Louis, October, 1904.

It is a trite saying that "There is nothing new under the sun!" Like many other familiar phrases, this is frequently uttered without any real perception of its scope. *Nothing new*, indeed, and yet the world moves onward! Then what is progress, or is there anything or any idea to which the word *progress* may be applied? Every now and then the world is electrified by some new idea, or some new discovery! Then, lo, some delver in ancient lore, some seeker in forgotten mines shows that the new idea is even old, perhaps the new discovery nearly as old as the world itself. Facts are ascertained, demonstrated, taught, learned, and — forgotten. Theories vague and uncertain, even in the minds of their weavers, are accepted for science! Then, lo! the old forgotten facts spring again into view and the theories flee, to be forgotten in their

turn, only with this difference, that there is no resurrection for them!

It is not very many generations since the world knew nothing of the solar system, its marvelous revolutions and the laws that govern its sun, moon, stars and planets. Sir Isaac Newton made some astounding discoveries, and there was doubt, astonishment, consternation. The world was not unwilling, but unable to believe. To-day, men look back and wonder how any one ever believed otherwise than in accord with the now accepted science of astronomy which has acquired a countless number of facts since Newton assigned to our sun its rightful place and authority in the system of astronomy that is almost an exact science.

Since Newton's day, it has been ascertained that many centuries before, even in the sixth century before the era of the "Son of Righteousness," the fa-

mous Ionian philosopher, Anaximander, the first systematic writer on philosophy, had an inkling of some of the marvelous facts of astronomy. Strangely mixed with wild theories, were the ideas conceived of the solar center and its relation to the earth and heavenly bodies revolving around it. Then we learn that the great Pythagoras actually knew all the chief facts concerning the movements of the sun, the stars and the planets. He even knew that the stars were suns of systems like our, and advanced the theory that the planets are worlds, cheered and animated with life, similar to, if not like, ours; he was also acquainted with the two physical forces, attraction and repulsion; nay, he knew what modern science has not fully rediscovered; that the visible suns were emanations from and dependent upon an invisible, original, central sun, the sun of the universe, the celestial power whence the forces of nature are derived. We learn that, from time to time, there were others who knew more or less of the truths which science proved, even before the time of Copernicus, whose knowledge was marvelous, and of Galileo, who had to answer to the Roman hierarchy for knowing more than the Church. Indeed, so much of the Newtonian philosophy do we find in the ancient, that we cannot doubt that he had been exploring the old mines of cabalistic lore, and reached his great discoveries by following up clews gained therefrom.

But the special purpose of this paper is to promote the well-being of mankind in this probationary world, by advocating light and its rays as the reme-

dial agent for the human organism when from any cause whatever, internal or external, the equilibrium of health is disturbed and disease wastes the body and deranges the mind:—nay, even when there is no clearly defined disease, but only feebleness and an indisposition for physical and mental effort. Of course to apply any remedy successfully, it is essential to know the characteristics and qualities of that remedy, and the features and functions of the organism in the condition of health. There are idiosyncrasies or differences in individuals, but the human organism in health, is much the same, not only throughout each race, but even throughout the family of man; and while some medicines act promptly and effectively in some cases, refuse to act in others, and act injuriously in still others where the symptoms are identical, yet light and its rays will be found exceptional in this respect and they seldom fail to effect just what they are designed to effect, when rightly administered. We can attribute this exceptional efficacy of light to the fact that it is essentially and especially nature's remedy, and, therefore, peculiarly adapted to assist nature in banishing disease and restoring health.

Bacon declared: "There can be no real knowledge but that which is based on observed facts"; and the undisputed truth of this fact has been admitted by all eminent thinkers since his time.

A fact new to man's knowledge—the blackening of a white salt of silver—presents itself and naturally the discoverer seeks to find the cause to which the phenomenon is due. The salt of silver

remains perfectly white as long as it is kept in darkness; but it blackens when exposed to the sunshine. Consequently the change of color, which is all that was at first observed, appearing to be connected with light, calls for an interpretation of the phenomenon. Man starts to solve the problem, forms an hypothesis and says: "The calx of silver separates the phlogiston from the light and retains the superfluous phlogiston of light." Men of science have changed their views; but their mode of reasoning on this phenomenon is as much guided by preconception as was that of Scheele, when he was disposed to refer the decomposition of chloride of silver to phlogiston.

Conjecture is a process, common to every mind; we all frame hypotheses as we endeavor to advance from effects to causes. The strictest inductive philosophy allows of this; but the hypothesis must not be permitted to take the place of a theory, which is an explanation based on a large number of well observed facts. Newton's fundamental rule was: "No more causes, nor any other causes of natural effects, ought to be admitted than such as are both true, and sufficient for explaining their appearances." To account for many of the phenomena of light, philosophers have conjectured that the unknown *something* to which they are due has a wave motion, that the *ether* pervading all space, being set in vibration or tremor, affects the eye with the sensation of light. Since this hypothesis explains the greatest number of luminous phenomena, it is generally received. However, it must not be forgotten that

we arrive at this hypothesis by reasoning from analogy. If we cause a stretched string to vibrate, its pulsations are communicated to the surrounding air, and the waves thus produced beat upon the auditory membrane and produce sound. We know the fact of the existence of the air; the fact of the vibrating cord; and if we place some peculiar arrangements of mobile bodies between the cord and the ear, we prove that the air partakes of the undulations of the string. Upon a fancied analogy, hypothesis creates the *ether*, and then sets it vibrating to produce an effect on the eye of a similar order to that which the air produces on the ear—that is undulations, in one case, give rise to sound, in the other to light. A most eminent European thinker has written; "Notwithstanding all arbitrary suppositions, the phenomena of light will always constitute a category *sui generis*, necessarily irreducible to any other; a light will be forever heterogeneous to a motion or a sound."

Let us, for example, take the strange fact that chloride of silver darkens upon exposure to sunshine, or to daylight; that is what we have to examine into. We may take this simple phenomenon of change as representing all that I shall bring to your notice in this paper, the differences being only of degree. Since this white salt of silver will not darken in the absence of light, it was reasonable that the change should be referred to the luminous element; hence those pictures produced in the camera by the influence of the solar rays have been called photographs. When, however, we proceed with an examination and



clearly understand all the conditions under which chloride of silver changes color in the sunlight, we cannot fail to observe the several peculiarities following:

1st. Those rays which give the most light—the yellow and the orange rays—will not produce change of color in the chloride of silver.

2nd. Those rays which have the least illuminating power—the blue and violet—produce the greatest change, and in an exceedingly short space of time.

3rd. The rays which pass through certain yellow glasses have no effect on chloride of silver.

4th. The rays which pass through very dark blue glasses, rapidly change the color.

The yellow glasses obstruct scarcely any light; the blue glasses may be so dark as to admit of the permeation of only an exceedingly small quantity.

5th. Where there is no sensation of light under ordinary circumstances, beyond the violet rays of the spectrum, the chemical change is speedily produced.

Reasoning upon these facts and some others of still more striking character known to us, it appeared to M. Berard that "solar light consisted of three substances," to which severally belonged, "the calorific chemical phenomena." This hypothesis did not, however, receive any support from the physicists of his time, and the weight of several eminent names was brought in support of the opposite view. The eminent Dr. Young's experiment demands an attentive consideration however,

though it proves no more than this, that, as in the ordinary refracted spectrum, the chemical action is found at its maximum about the region of the violet rays; so in the interference spectrum, the chemical change is confined to the violet rings.

We must certainly come to the conclusion that the rays which produce the chemical changes under consideration, are subject to the laws of refraction and interference like light. But, if they were light rays, it cannot be conceived why, in the yellow, and therefore most luminous rings, no chemical change occurred.

Again M. E. Becquerel and Prof. Stokes have proved that the chemical impressed spectrum—over those spaces which are more especially chemically active—exhibits inactive lines which exactly correspond with the dark lines of that same portion of the spectrum when rendered luminous. This, however, proves no more than that the cause which occasions the absorption of light along certain lines does, at the same time, occasion the absorption of the principle to which the chemical agency is due. This view, as will be seen in the sequel, received also the support of M. Arago, who, although most favorably predisposed to urge the theory of undulations wherever it was possible to do so, did not fail to perceive that the phenomena of light and chemical action were heterogeneous.

"That there exists some one, all-pervading principle — an ether — which may, under different conditions of motion, give rise to effects of a dissimilar character, is a probability which is not

denied; it is, however, contended that the facts observed do not support such a conjecture in connection with the chemical changes produced by the solar rays."

"The undulatory theory supposes heat—I refer here, entirely to the conditions of the prismatic spectra—to be the result of a set of vibrations of a certain length and rapidity, and the ether thus vibrating, is, by the prism, bent only slightly out of its path. Light is the result of the same ether pulsating to a quicker time, consequently in shorter waves, the refraction being much greater.

"Chemical action is produced by a system of vibrations, smaller and infinitely more rapid; while the bending of this set of waves—the chemically active ray—is to a much greater angle than either of the others. This is the hypothesis; now, take a fact. By means of two prisms, two spectra are formed, each of which produces upon chloride of silver a chemical change from the green ray to some distance beyond the visible violet. Each spectrum is now so arranged, that the inactive yellow and orange rays of one are thrown upon the most active blue and violet rays of the other. The result is, that the chemical action is entirely stopped. This may be said to be due to interference; but I must confess, I cannot understand upon what principle the action of rays undulating 535 millions of millions of times in a second, and producing light, can interfere with rays vibrating 737 millions of millions of times in the same period, and producing, as experiment proves, chemical change. To support

the view, that light regarded as an undulation produces chemical change, since the chemical cause must reside in—must be—the particular ray and nothing else, it is necessary to prove that when a colored ray of light is obliterated, all chemical action should cease over the space which belongs to that special ray: and also that when the luminous colored ray is not obstructed, its chemical power should still exist undiminished. Experiment shows in the action of an absorbent medium that the blue rays, regarded as the rays to which the maximum chemical effect belongs, may be entirely obliterated without the chemical effect ceasing; and that under other conditions, the blue ray may appear clear and intense in the spectrum thrown on the chloride of silver, and yet produce no chemical effect."

Robert Hunt says: "After many years of close experimental examination, and an equally long and careful study of the hypotheses applied in explanation of the phenomena of light in the first place, and subsequently to the chemical phenomena associated with light, I cannot bring my mind to adopt the view, which refers the photographic phenomena to the agent producing the luminous and calorific phenomena of the solar rays. As it respects light, I am quite ready to bow to the numerous high authorities who support the undulatory theory. Not so, however, with regard to the chemical radiation."

Careful study shows the amount of support which the following views receive from experiment.

Light, heat and chemical power come

and other national airs are borne, in the heat of the conflict, to the excited battalions, or, when, under the Gothic vault, the sad "Stabat Mater" pours out its mournful notes, it is the vibrations which effect us by speaking a mysterious language. Now, all in nature is motion, vibration and harmony. The flowers of the garden sing, and the effect which they produce depends on the number and agreement of their vibrations relatively to those which emanate

waves which come from different sides, so the atom of the ether undulates under the influence of light and heat; the atom of air undulates under the influence of sound, and the planet and satellite circulate under the influence of gravitation.

Harmony is everything. To the eye of the person acquainted with the principle, nothing is more interesting than the crossing of waves of water. By their interference the surface of inter-



Figure 1

from surrounding nature. In violet light the atoms of the ether oscillate with the unheard of rapidity of 740 billions of vibrations per second; red light, which is slower, is produced by undulations vibrating even at the rate of 380 billions per second. The violet color is, in the case of light, what the highest notes are in the case of sound, and the red color represents the lowest tones. As we see an object floating in the water, obeying with docility the

section is sometimes so divided that it forms a beautiful agitated mosaic of rythmical motions, a sort of visible music.

When the waves are skillfully produced on the surface of a disc of mercury, and this disc is illuminated with a pencil of intense light, this light reflected on a screen reveals the harmonious motions of the surface. The form of the vessel determines the form of the figures produced. On a circular disc,

for example, the disturbance is projected under the form of circular waves producing the magnificent *chassecroisise* represented in Fig. 1. The light reflected by a similar surface gives a design of extraordinary beauty; when

the mercury is slowly agitated with the point of a needle in a direction concentric with the circumference of the vessel, the lines of light turn round in a ring under the form of distorted, interlaced threads, revealing one another in an ad-

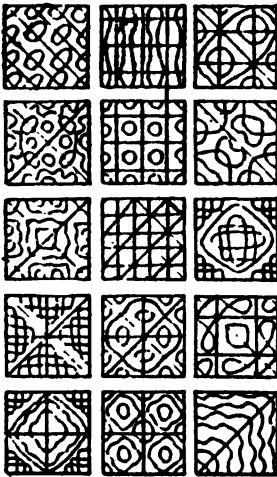


Fig. 2.

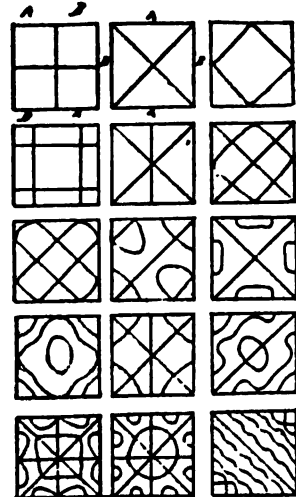


Fig. 3.

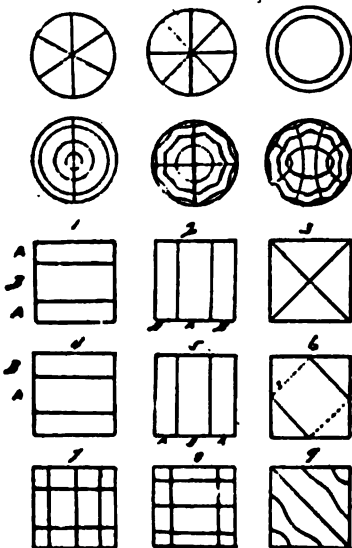


Fig. 4.

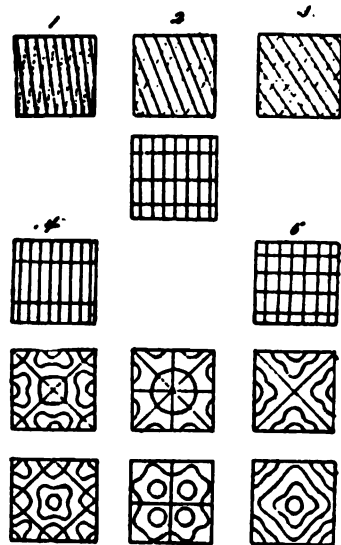


Fig. 5.

Fig. 2.—The Chladni Figures from Dr. Mount Bleyer's article on "Voice Pictures and the Wonders of Sound-Force."

mirable manner. The most ordinary causes produce the most exquisite effects.

The undulations of sound may be expressed to the eye by figures no less harmonious, no less pleasing, than the preceding ones. Let us take, in imitation of Chladni, a plate of glass or a thin plate of copper, and sprinkle it

signs, which appear at the command of the bow of the skillfull experimentalist. The notes of the gamut are, besides, nothing else than ratios of numbers between the sonorous vibrations. Combined in a certain order, these numbers give perfect accord. Here, the major mode rouses and enraptures us; there, the minor mode affects us and plunges

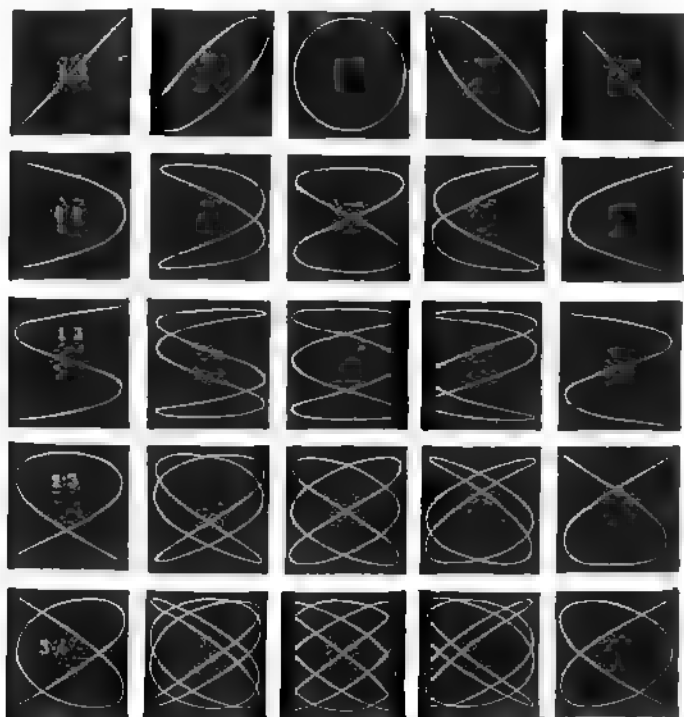


Fig. 3.

with fine sand. Let us deaden one of its edges at two points, with two fingers of the left hand, and pass a bow along the middle of the opposite side. We shall see the sand trembling, falling back from certain parts of the surface, following the sounds obtained and designing the figures here produced (Fig. 2). By varying the experiment we thus obtain these admirable de-

us into melancholy and reverie. And, yet, there is here but a matter of figures! We can not only hear these sounds, but may even see them. Let us make two tuning-forks vibrate by the ingenious method of Lissajons, one vertical, the other horizontal, fitted with little mirrors reflecting a luminous point on a screen. If the two tuning-forks are in unison and give ex-



actly the same note, the combination of the two vibrations rendered visible on the screen by the little mirrors that inscribe them in lines of light, produces a perfect circle; that is to say, the simplest geometrical figure; as the amplitude of the vibrations diminishes, the circle flattens, becomes an ellipse, then straight lines. This is the first row of Fig. 3 in which the number of vibrations is in the absolutely simple ratio of 1 to 1. If, now, one of the two tuning-forks is exactly an octave from the other, the vibrations are in the ratio of 1 to 2, since every note has for an octave a number of vibrations exactly double, and instead of a circle it is an 8 which is formed and modified as we see in the second row. If we take the combination of two tones of 1 to 3, say *do* with the *sol* of the octave above, we obtain the figures of the third row. If we combine 2 to 3, as *do* and *sol* of the same octave, we produce those of the fourth row. The union of 3 with 4, of *sol* with the *do* above, gives the fifth series.

What is most curious is, that in the complete figures (those of the middle of each series) the number of summits in the vertical direction and in the horizontal direction indicates the ratio of the vibrations of the tuning-forks. Yes, in everything and everywhere numbers rule the world. Many curious experiments among those made by Dr. J. Mount Bleyer (*Voice Pictures*), and those of Miss Watts Hughes are also evidences of the facts just spoken of.<sup>1</sup>

Why, however, seek in scientific an-

alysis testimony to the harmony which nature has shed over all her works? Although it may be necessary for us to rise to the ideal of music to contemplate the beautiful color of the sky or the splendor of the setting sun; we may on a dull winter-day, in the grey and monotonous hours when the snow falls in innumerable flakes, examine with the microscope some of the flakes and the geometrical beauty of these light crystals (Fig. 4) will fill us with admiration. As Pythagoras said, "God works everywhere by geometry."

The velocity of light has been approximately known for more than two centuries. The honor belongs, however to the modern physicist, Prof. Harkness, who has made the most correct calculation, in 1891, and found it to be 186,337,000 plus or minus 49.723 miles per second.

Thus, when we see an eruption shoot out from the solar limb, eight minutes have elapsed since the event occurred. When we see a satellite of Jupiter lose its light, it is at least thirty-four minutes since the eclipse took place. When we observe Neptune we see it as it was four hours previous. When we look at a star, we see it, but not as it was at the moment the luminous ray left it—that is to say, four years ago with reference to the nearest, and ten years, twenty years, fifty years, one hundred, a thousand, ten thousand years, according to the distance. Likewise, a transcendant eye placed at these successive distances would now see the earth as it was four years, ten years, or more ac-

<sup>1</sup>*Journal of Eye, Ear and Throat Diseases*. Baltimore. *Voice Pictures*; or the *Wonders of Sound-Force*; Their Production and Their Photography. Sept. and Oct., 1904.

cording to the distance. Light makes the past an eternal present. Such is the progressive transmission of light. But how shall we represent the action of the sun in the production of this light?

Let us remark, first, that the radiant

On the other hand, we know that heat is nothing else than a mode of motion; *it is the motion of the molecules in rapid vibration which is felt as heat.*<sup>1</sup> *Light is otherwise but a vibration.*

There is no solid matter, properly so called, and this is a fact no less worthy

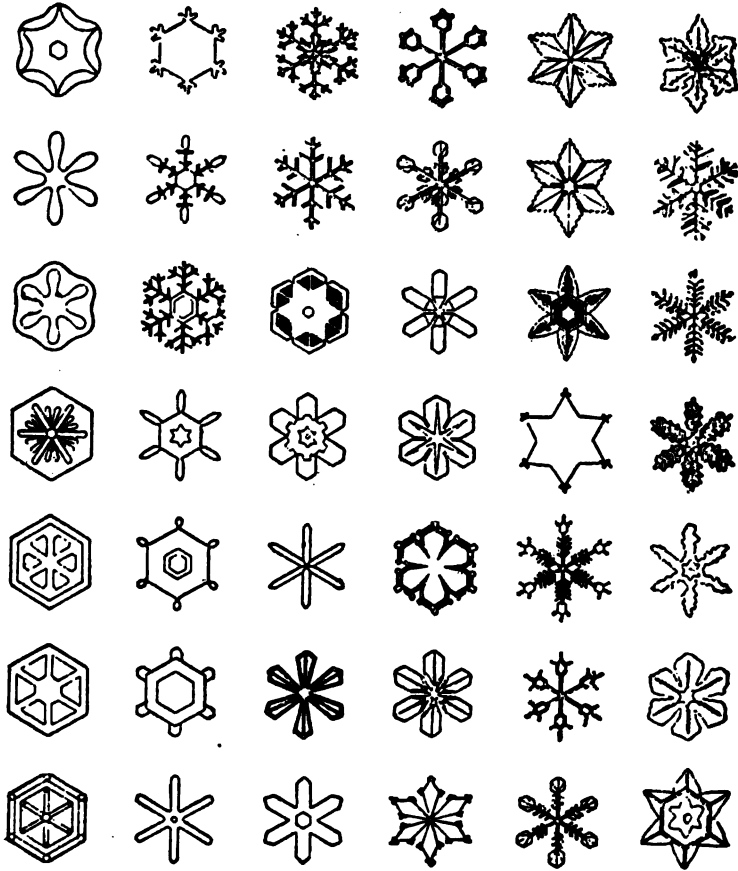


Fig. 4.—Snow Flakes—Showing their Geometrical Forms.

star sends us heat at the same time as light, and that very often the two species of rays are mixed up. Every-day experience shows us, also, that heat raised to a certain degree becomes light.

of attention than that of astronomical magnitudes and motions. In the densest mineral, in a piece of iron, of steel, of platinum, the molecules do not touch. Cohesion, which is the attraction

<sup>1</sup>Let us strike a piece of iron. The muscular motion of the arm is transmitted to the molecules of the iron, which are in a state of invisible motion that we call heat. Friction produces heat, and this was the first source of fire among the ancients. Thermo-

of the atom, maintains them; but heat increases their distance from one another, more or less, by animating them with a vibratory motion. If this heat is sufficient the cohesion loses its power, the *solid* state disappears and the molecules glide over one another; this is the liquid state. If the heat is raised higher, that is to say, if the vibratory molecular motion is more violent, the molecules even escape altogether from cohesion and the body becomes vapor or gas. Thus, there is no solid matter, and the heat-motion makes bodies pass through the three states. It is assuredly strange to think that our own body is not more solid than the rest, but formed of molecules which do not touch and are in perpetual motion. Perhaps even the constituent atoms of bodies rotate on themselves and around one another. If you had sufficiently good sight to see exactly the materials which compose your body, you would see it no longer, because your sight would pass through it. And how small are the constituent parts! The red globules which color the human blood have the form of microscopic lenses measuring only the hundred and thirtieth part of a millimetre in diameter. It would be necessary to place 130 of these little bodies end to end to form the length of a millimetre. A drop of blood of a

cubic millimetre contains about five millions of globules; a litre of normal blood contains 5,000 millions, and there flow in our arteries and veins twenty-five to thirty thousand millions of these little organic bodies.

Let them become either reduced or multiplied, and we are dead. Let them coagulate, or become cool or heated, and we are dead! Let them stop, and we are lost! At each throb of the heart a violent and rapid impulsion projects the blood to the extremities of the members. One hundred thousand times a day, 36 millions of times a year, the same pulsations recommence, until the day when the fatigued muscle stops, and compels us to lull ourselves profoundly in the last sleep.

The constituent molecules of bodies do not touch. It is thus, and thus only, that the expansion and the change of the state of bodies under the influence of heat can be explained. We do not doubt the energy of the atomic forces in action around us. Let us heat one pound of iron from zero to 100 degrees; it will expand about 1-800, a span imperceptible to the eye, and yet the force which has produced this expansion would be capable of lifting 12,000 lbs., and raising them to the height of one yard. The power of gravitation almost vanishes in comparison with

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dynamics has estimated the mechanical equivalent of heat and we know now that the heat necessary to raise one pound of water 1° in temperature is equivalent to a mechanical force capable of raising 772 pounds 1 foot in height and conversely.

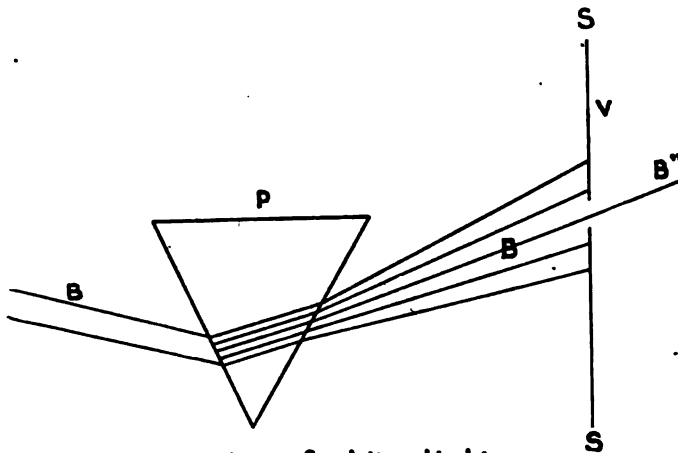
*Heat is a mode of motion.* A ball of lead of 1 pound falling from 772 feet of height arrives with a velocity of 322 feet per second, and, as its calorific capacity is one-thirtieth of that of water, its collision with the ground would raise its temperature by 30° if the soil itself were not heated by the fall. Such a ball shot with the velocity five times greater, or 1,610 feet, would attain a degree of heat twenty-five times higher, or 750°, in striking a target which could not be heated. That is to say, that if the Supreme Will were to stop suddenly, this ball, thus shot out into space would melt on the spot and flow like water.

these molecular forces; the attraction exercised by the earth on the weight of half a kilogramme (about a pound) taken in a mass, is nothing compared to the mutual attraction of its own molecules. In the combination of 1 lb. of hydrogen with 7 lbs. of oxygen to form water, work is performed capable of

grammes rolling down to 46,000 feet of depth!

When a bar of iron is heated and becomes sufficiently hot to be luminous, it sets the ether in vibration at the unheard of velocity of 450 billions of undulations per second.

The length of the wave of the ex-



**The dispersion of white light  
by its passage through a prism.**

Fig. 5

Fig. 5 shows how a beam of parallel rays of white light, such as sun or electric light, etc., B, is changed into a fanlike beam, B', by a prism. This fanlike beam falling upon a screen, S S, produces an illuminated band R V, called *spectrum*, which is red at the end R and passes by insensible graduation through orange, yellow, green and blue to violet at the end, V. The beam of light, B, is said to be *dispersed* by the prism. The fanlike beam, B', produces white illumination when concentrated by a covering lens upon a small portion of a screen.

raising by 1 degree the temperature of 34,000 lbs. of water, or of lifting 15,000,000 lbs. to the height of one yard. These nine pounds of water, in being formed, have fallen molecularly down a precipice, equal to that which would be passed over by a ton or 1,000 kilo-

trene red is such that it would require 38,000 placed one after the other to form a length of one inch. As light travels 300,000 kilometers per second, or 30,000,000,000 centimeters, multiplying this number by 15,000 we obtain the number given above; all these

<sup>1</sup>What comes from the sun and from all sources of light and heat is not then, to speak accurately, either light or heat (for these are merely impressions), but *motion*, motion, extremely rapid. It is not heat which is scattered through space, for the temperature of space is, and remains everywhere, glacial. It is not light, for space has constantly the darkness seen at midnight. It is motion, a rapid vibration of the ether which is transmitted to infinity, and does not produce a perceptible effect until it meets with an obstacle which transforms it.

waves, 450,000,000,000,000, enter the eye in one second!"

Let us receive a ray of light on a lens in order to produce a very pure pencil, then on a prism (a triangular piece of glass); in passing through the prism, this luminous ray is refracted, and in passing out, instead of forming a white point, it forms a ribbon, colored with the tints of the rainbow. In making this experiment, Newton proved that the white light gave birth to all these colors. These are arranged in the following well known order:—Violet, indigo, blue, green, yellow, orange, red.

The colors are separated, each according to its character; the most in-

lar rays—perceptible by our retina. Our eyes begin to see, when the ethereal vibrations reach the number of 450 billions, and stops seeing when they exceed 700 billions (purple-violet); but beyond these limits nature still acts—unknown to us. Certain chemical substances, as those used in the screens for X-rays, etc.—the photographic plate is another example—see further than we do, beyond the violet; these are *invisible rays* for our eyes and numerous other examples could be cited for illustrative purposes.

Our ear perceives aerial vibrations from 32 vibrations per second (low tones) up to 36,000 (high tones); be-

## WHITE LIGHT

A	B	C	D	E	F	G	H
	RED		YEL.	GREEN	BLUE	VIOLET	

## Solar Spectrum.

Fig. 6

tense, the red, does not allow itself to be turned aside from its path, and passes in a straight line; the orange submits a little to the influence of the prism, and is placed to one side; the yellow submits still more, the green, then the blue, are still milder and weaker, and continue the ribbon. It is this colored streamer which bears the name of the *solar spectrum* (Fig. 6). In reality there are not *seven* colors; there is an unlimited number. In the time of Newton the number VII was still secret.

The length of the spectrum only represents the light—that is to say, the so-

yond this we hear nothing. Thus our senses are limited, but not the facts of nature. The colors are like the notes of the gamut, effects of number; in painting as in music there are *tones*.

It is the molecular arrangement of reflecting or transparent substances, which gives rise to the different reflections of light, that is to say, the colors. A slight difference produces here a blue eye, pensive and thoughtful; there a brown eye, with half-hidden flames; there a look, dull and distasteful. The dazzling rose which blooms in the flower-garden, receives the same light

as the lily, the buttercup, the cornflower or the violet; the molecular reflection produces all the difference; and we might even say, with metaphor, that objects are of all colors except of those which they appear. Why is the meadow green? Because it keeps all except the green, which it does not want and sends back. White is formed by the

part of the spectrum; it becomes black, because, it is not able to send back anything but red, etc.<sup>1</sup>

The calorific rays are not visible to us. If we move the bulb of a thermometer along the solar spectrum, we find that the heat begins at the indigo, and gradually rises to acquire its maximum intensity near the end of the visible

\*E. J. Wall, F. R. S. Invisible Rays. London.

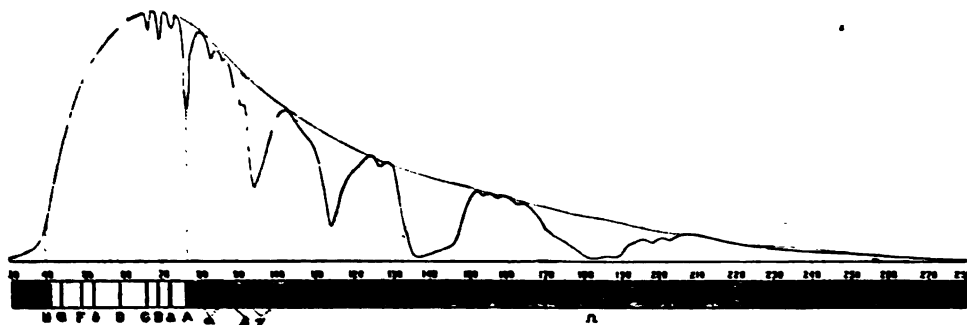


Fig. 2.—Langley's normal bolometric spectrum, showing curves of galvanometer deflections (from the *Photogram*.)

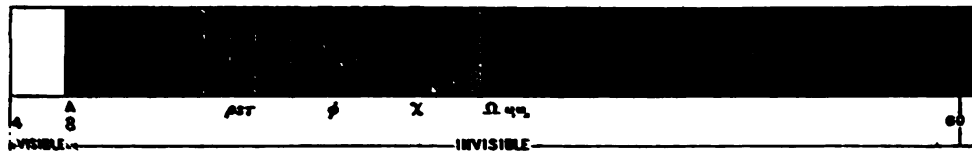


Fig. 3.—Langley's latest spectrum. The white portion on the left is the visible spectrum, the shaded portion on the right representing the invisible or infra-red (from the *Photogram*.)

Fig. 7

Fig. 7, a photographic plate reveals the existence of visible rays beyond V, the ultra-violet rays, especially in sunlight; and a therm-opile or bolometer shows the existence of rays inside of or below R, the *infra-red* rays. The portion of the spectrum between R and V is called the *visible spectrum*.

reflective nature of an object which keeps nothing and returns all; black, by a surface which keeps all and sends back nothing. Project the solar spectrum on black velvet; it is absolutely extinct; place a band of red velvet in the blue

spectrum, beyond the red. The most luminous part of the spectrum, the yellow, is not the hottest. On the other hand, we ascertain chemically, through the labors of Ritter and Scheele, especially by photography, that the chemical

<sup>1</sup>With reference to this, I have noticed a rather singular fact during some experiments. A white ray which traverses a plate of blue glass is projected in blue; projecting these two colors on each other, on a screen, we obtain a pure *white*; because these two colors are complementary. But, if we place the *same* plates of yellow and blue glass to a single apparatus we obtain green.

rays begin in the green, acquire their maximum in the violet and extend beyond it, forming also an invisible spectrum. Figure 8 represents the relation which exists among the three species of rays. The luminous rays extend from the red to the violet (from the left of the line *A* to the right of the line *H*), and their luminous intensity is repre-

sun. The lines worked with the letters of the alphabet from *A* to *W* at the bottom of the figure, represent the fixed dark lines which exist in the solar spectrum, of which I shall speak as I go along in this article. They serve as landmarks by which to ascertain the position of any given point in the spectrum. The greatest amount of chemi-

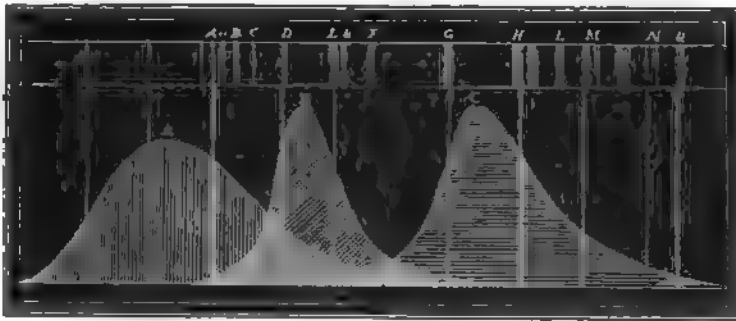


Fig. 8

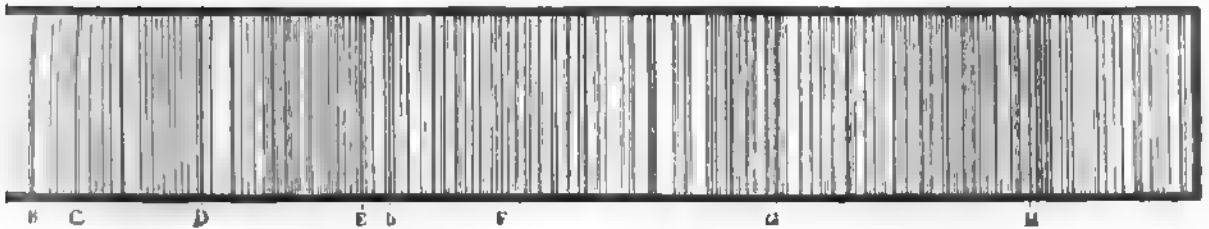


Fig. 9

sented by the curve *L*, of which the maximum occurs, as we see, between the rays *D* and *E*. The curve to the left, *G*, represents the calorific intensity; and the right curve, *Ch.*, corresponds to the chemical action. A sixth sense is opened to the world by the calorific rays, a seventh by the chemical rays. (Figure 9.)

The accompanying figure. (Figure 8½) exhibits the chemical action affected by the various portions of the spectrum on the sensitive mixture for one particular zenith distance of the

cal action is noticed between the line in the indigo, marked *G*, and that in the violet, marked *H*. In the direction of the red end of the spectrum, the action becomes imperceptible about *D* in the orange—the maximum of visible illumination—whilst towards the other end of the spectrum the action was found to extend as far as the line marked *U*, or to a greater distance beyond the line *H* in the violet than the total length of the ordinary visible spectrum.

By way of a conclusive illustration, this same fact may be shown that a pho-

tograph can be made with these blue rays, whereas there is failure to produce the same effect with the red rays.

I want to point out another important fact right here before I go on further into my subject, viz., that the solar

the rainbow tints, but that in the solar spectrum we find, interspersed between these, certain dark lines which we may regard as shadows in the sunlight—spaces where certain rays are absent.

What we see is nothing compared

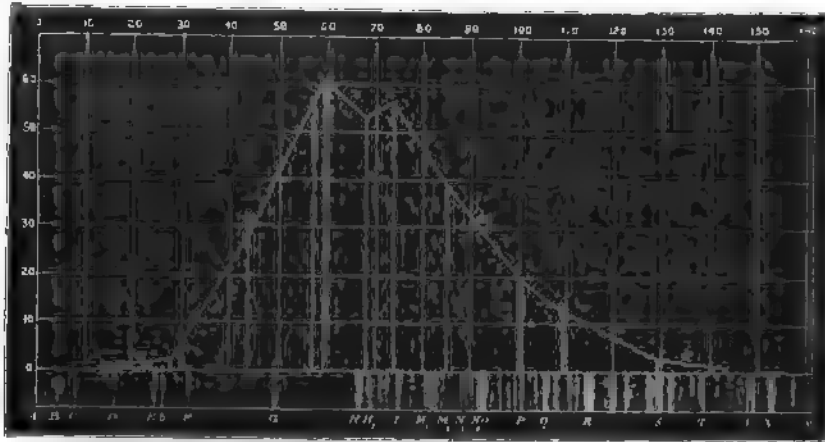
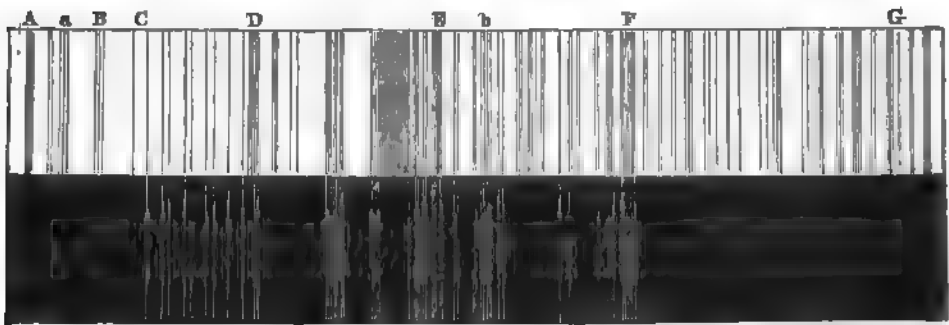


Fig. 8%



COINCIDENCE OF THE LINES OF IRON WITH THOSE OF THE SOLAR SPECTRUM

Fig. 9%

spectrum differs in certain respects from that beautiful spectrum of the electric arc light with which much is now being done in photo-therapeutics, etc. It differs in this way, that the solar spectrum consists, not of a continuous band passing without a break or interruption from the red to the violet, through all the shades of color which we know as

with what is constantly passing around us in nature.

As early as 1815 Fraunhofer, a Bavarian optician, studied with care the violet spectrum and sought to discover some fixed points in it which might be independent of the nature of the prisms, and which could be regarded as points of reference to which the zones and



colors of the spectrum might be referred; when he perceived that, by giving the prism a certain special position, there suddenly appeared in the spectral

are placed as follows: The first at the limit of the red, the second in the middle of that color, the third near the orange the fourth at the end of that tint, the fifth in the green, the sixth in the blue, the seventh in the indigo, the eighth at the end of the violet. These are, then, the principal black lines which we distinguish in the spectrum. As to the total number of these lines, it is really amazing. Fraunhofer counted 600 with a microscope; later Brewster carried this number to 2,000; now we count 5,000 and more. (See Figure 9½.)<sup>1</sup>

These lines of the solar spectrum are constant and invariable at all times when the spectrum studied is that of light emanating from the sun; whatever this light may be, we find them in daylight, in that form in the clouds, in the light reflected by mountains, buildings, and all terrestrial objects. We find them even in the light of the moon and in that of the planets, because these celestial bodies shine only by the light which they receive from the sun and reflect into space.

This discovery of microscopical lines which thus cross the solar spectrum was soon made fruitful by another not less important discovery. Admitting thro' a prism rays issuing from a luminous terrestrial source, such as an electric arc light, a gas jet, a lamp, a metal in fusion, etc., we notice at first that these artificial lights give rise to a spectrum as well as that of the sun, but that this spectrum differs from the solar spectrum by the number and arrangement of the colors; we remark in the second place—and here is the import-

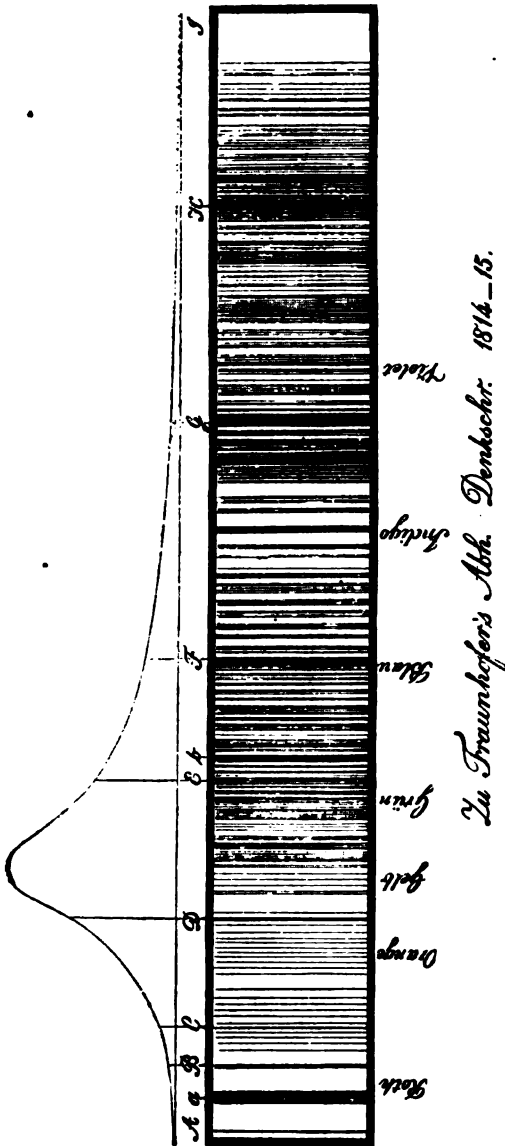


Fig. 10. The original Fraunhofer's spectrum.

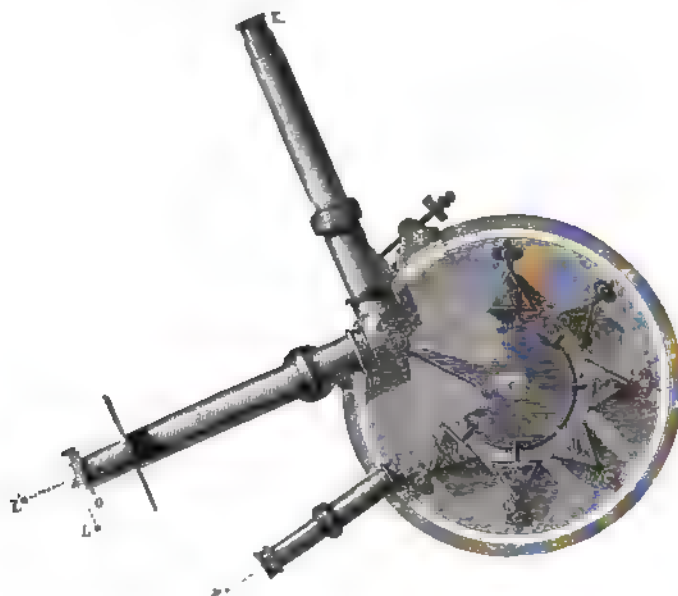
image dark lines crossing the stream transversely in the same colors, he designated the eight principal lines by the first letters of the alphabet. They

<sup>1</sup>These lines are universally known by the letters given in figures, 9 and 9½.

ant point—that the spectrum of these lights is also crossed by lines, that the distribution of these lines differs according to the nature of the light observed, and in short, that they present an *invariable order, characteristic* of each of them.

In order to fix our ideas, let me describe an experiment such as was made

as not to give a spectrum itself.] The moment we place in the flame the prepared platinum wire a spectrum appears in the telescope and the eye placed at the microscope can analyze it at its ease. This spectrum is *that of the substance which burns*. The luminous ray leaving the point *L* (Fig. 11) is reflected from the little prism *O* at the end of



SPECTROSCOPE  
Fig 11

by Kirchhoff and Bunsen, the two physicists to whom we owe these brilliant researches. Let us place in a gas jet a platinum wire, at the extremity of which we put a small fragment of the substance which we wish to analyze. Before the flame is placed the spectroscopic, a telescope expressly constructed for our analysis, and in which the rays from the flame pass through a prism and an analysis microscope. [The flame of our light from whatever source, is regulated and weakened so

the telescope, and thus appears to come from *L*. Following the axis of the telescope it is refracted successively through six prisms, *A, B, G, D, E, H*, and enters the telescope, *K*, by which it is observed. In order to compare or measure it, we should have in the little telescope, *F*, an image or a scale which serves to fix the position of the rays.

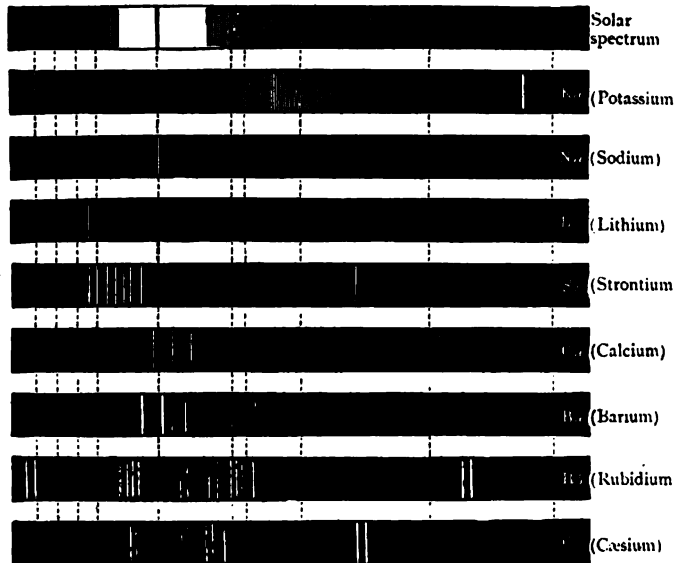
For example, we dip the platinum wire into a bottle of potash. The moment we place it in the gas jet, a spectrum appears in the spectroscopic; this is

the spectrum of potassium. It is composed of seven colors—like the solar spectrum; in addition, it is characterized by two very brilliant red rays, situated towards each of the extremities.

Similarly, if we place small crystals of soda at the point of the platinum wire, we see a singular spectrum appear, which contains neither red, nor orange,

*gramme* of sodium discloses itself in the flame of a candle.

Thus every substance analyzed produces in the spectroscope an arrangement of lines which is peculiar to it—it registers its true natural name in hieroglyphic characters; it reveals itself by itself and in an incontestible form.



COMPARATIVE FIGURE OF SPECTRA

Fig.

nor green, nor blue, nor violet, and which is simply characterized by a splendid yellow ray corresponding to the position of the yellow in the solar spectrum and of the line which crosses that color. We have here the spectrum of sodium, and so on.

This method of analysis is so marvelously powerful that it reveals the existence of substances in quantities infinitely small, and, where any other method would be completely abortive, the presence of a *millionth of a milli-*

The black lines which are described above in the solar spectrum *correspond precisely to certain bright lines characteristic of the spectrum of different terrestrial substances.*

On the other hand, it has been ascertained that metallic vapors endowed with the property of emitting in abundance certain colored rays absorb these same rays when they come from a luminous source situated behind these vapors and traversed by them. Thus, for example, if behind a flame in which sea

salt burns we kindle a brilliant Drummond light, and if we superpose the two spectra, immediately the yellow line of sodium will disappear from the spectrum of sodium and give place to a dark line occupying precisely the same place.

It follows from this double observation that the black lines of the solar spectrum prove:

1. The existence of a burning and gaseous atmosphere around that body.

2. The presence in that atmosphere of substances announced by the lines in question.

There have been identified, line for line, in the sun, the 460 lines of the spectrum of iron<sup>1</sup>, the 118 of titanium, 175 of calcium, 57 of magnesium, 33 of nickel, etc. So that we now know certainly that there are at the surface of that dazzling star, and in the gaseous state, iron, titanium, calcium, manganese, nickel, cobalt, chromium, sodium, barium, magnesium, copper, potassium; but we still cannot recognize any trace

of gold, silver, antimony, arsenic or mercury. Hydrogen was discovered in 1868; oxygen must exist in this furnace, but the oxygen lines which have been found in the solar spectrum proceed from our own atmosphere (Jansen 1888). Amongst all the discoveries of modern investigation none has deservedly attracted more attention or called forth more general admiration than the result of the application of spectrum analysis to chemistry. Nor is this to be wondered at when we remember that such a power has thus been placed in the hands of the chemist and allied scientists, enabling them to detect the presence of chemical substances with a degree of delicacy and accuracy hitherto unheard of, and thus to obtain a far more intimate knowledge of the composition of terrestrial matter than they formerly enjoyed. Since its discovery, the sciences in their various branches of analysis have profited much by it, in new discoveries.

To be continued.

### A USEFUL LIFE?

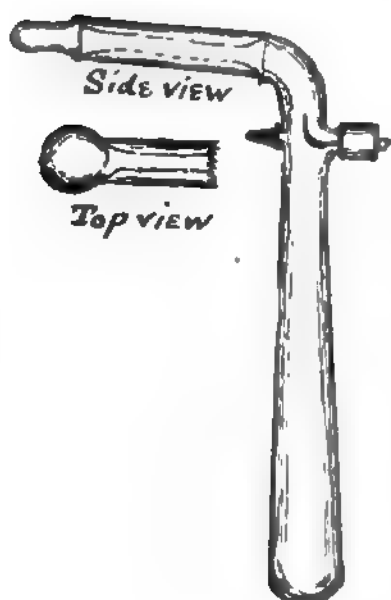
A Denver gentleman, aged sixty-four years, we are informed, has walked over 14,000 miles since August, 1891, thus warding off pulmonary consumption, with which he was threatened, and gaining forty-two pounds in weight. This pedestrian has received money, food, and clothing contributed by casual charitable or amazed acquaintances. Far be it from us to say that our hero's performance is not a superb object-lesson as to the value of open-air life in tuberculous disease, but it does seem as

if he might have varied with advantage his somewhat monotonous methods by occasionally sawing wood, mowing or reaping, doing chores around a short-handed barn, or otherwise giving more or less for value received in other ways than by merely reciting his possibly estimable autobiography to country householders. His system lends itself regrettably to the interpretation of being hardly more than an ingenious variant of the yarn of the ordinary tramp (*hobo communis*).—*N. Y. Med. Jour. and Phil. Med. Jour.*

<sup>1</sup>Prof. Roland has found over 2,000 lines of iron in the solar spectrum. J. E. G.

## A New Throat Electrode.\*

By CHARLES DENISON, A. M., M. D., Denver, Colorado.



One-third Size.

So far as I am aware this is a new instrument. It is a combination of a tongue depressor and a Geisler's tube, adapted for the delivery of the high frequency current to all parts of the throat. It will reach chiefly the tonsils, palatine arch, post-pharynx and epiglottis. As suggested by Dr. Gibson, after I had exhibited this electrode at the last meeting of our local medical society, the shape of the application end can easily be changed by projections downwards or upwards, underneath the epiglottis or within the larynx or upward behind the palate.

I have in mind metallic, olive pointed, conical shaped endings to a tube like

this, insulated by rubber tubing from the insulated portion of the shaft downwards to such extended application end, and long enough and stiff enough to be guided down into the trachea or low down in the oesophagus. In the former case the metallic end might be made hollow if desired to allow of breathing during the application, and I should expect good results from its use in syphilitic and tubercular laryngitis. In the latter case I do not see why the high frequency method would not work well in stricture of the oesophagus, whether from inflammation or malignant disease.

The present instrument was made for the treatment of tubercular growths on the arch of the palate, and the results of an every other day application for the past three weeks have been very gratifying, in more than limiting their progress.

In experimenting with this case, I found that on pouring a strong tincture of iodine on the electrode, connected of course with the resonator, and the current turned on through the coil, the alcohol would ignite leaving the bulbous end of the electrode coated with a film of iodine. This gives an excellent way to apply the iodine, enhanced, as I believe the effect is, through cataphoresis. In this use it is better to hold down the tongue with a separate depressor, so as to carry all the iodine to where you

Presented at the Medical Society of the City and County of Denver, December 6, 1904.

want it. The light in the tube enables you to see exactly what you are doing, even in a dark room.

To clean out syphilitic ulcerations in this way, or to combine the use of such an ozone producing electrode with the application of peroxide of hydrogen in diphtheritic pharyngitis, are uses which suggest themselves as possibly very fruitful in results.

The delivery end of the electrode is

made bulbous with a somewhat expanded oval end-surface with which to rub the post-pharynx or tonsils, making this form especially suited for the treatment of adenoids, tubercular infiltrations, or ulcerations.

I hope that my expectations for this form of electrode will be realized in the experience of others, and so am glad to submit the accompanying drawing.

---

The Boulder-Colorado Sanitarium has announced that owing to the prejudice against consumptives, they will no longer be received as patients at that institution. Thus the propaganda spreads, and it becomes from day to day more difficult to obtain care for our tubercular patients.

---

The women physicians of Denver have decided to establish a polyclinic for themselves for the treatment of women and children. The dispensary is to be conducted and managed exclusively by women physicians. The staff is as follows:

*Medicine*—Drs. Calvert and Wintermeyer.

*Chest and Stomach*—Dr. Sears.

*Pediatrics*—Drs. Beers and Burke.

*Surgery*—Drs. Love and Polly.

*Obstetrics*—Drs. Moore and Clegg.

*Gynecology*—Drs. Newby, Fitzhugh and Fantz.

*Ophthalmology and Otology*—Dr. Hoffman.

*Laryngology and Rhinology*—Dr. Hamley.

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*Electricity*—Dr. Teele.

*Bacteriology*—Dr. Abbott.

• They have also organized the Woman's Medical Society, which is to hold meetings the first and third Mondays of each month at the Women's Club.

---

The mother of Dr. Frank Dulin, of Denver, recently died of pneumonia at the advanced age of 79.

---

Steps have been taken looking toward the organization of the Illinois Society for the Prevention of Tuberculosis. It is proposed to concentrate the efforts of the State Board of Health, the Illinois Medical Society, and the Committee on Tuberculosis of the Visiting Nurses Association of Chicago. Their first work will be to urge an appropriation of \$250,000 for a state sanitarium for research and for the treatment of consumptives.

---

Dr. Ellen M. Oviatt, of Denver, has resigned from the State Industrial School for Girls.

# THE COLORADO MEDICAL JOURNAL

AND WESTERN MEDICAL AND SURGICAL GAZETTE.

*A Monthly Journal for the Medical Profession of Colorado and Adjoining States.*

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ALLISON DRAKE, Ph. D., M. D.,

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ESPECIALLY CONTRIBUTIONS RELATING TO TUBERCULOSIS AND CLIMATOLOGY,

Invited from the entire profession, but particularly from the Rocky Mountain Region.

All matter intended for publication in the next issue should reach the editor by the first of each month. Each contributor of an article will receive ten copies of the Journal containing his article, upon application. A reasonable number of illustrations will be furnished by the Journal free of charge if suitable drawings or photographs are supplied by the authors.

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VOL. XI.

DENVER, COLORADO, JANUARY, 1905.

No. I

## EDITORIALS.

### THE COMING YEAR.

We have not been much given to self-laudation in these pages, but at the present time we can scarcely refrain from a little indulgence. We really did not know how good a volume had been given our readers last year until it came to the preparation of the index. Then we could not help congratulating ourselves. Of course the special "Tuberculosis number" and the symposium on prostatic hypertrophy contributed largely to that result, but by no means exclusively. They also caused very annoying delays in appearance, a num-

ber of the contributors failing to furnish the papers until long after the announced date for appearance and also failing to return proof. For this reason, no special numbers will be issued this year.

This does not mean, however, that special efforts will not be made to continue the improvement in the Journal. This year it will be better than ever before. We would here call attention to the article by Dr. Mount Bleyer of New York, read before the American Congress on Tuberculosis at St. Louis, the first portion of which appears in this

number, and which will appear exclusively in the Journal. Dr. Mount Kleyer's investigations on the therapeutic effects of light began in 1889, thus antedating those of the lamented Finnen by some time.

We also have in preparation an exceedingly interesting series of articles on affections of the heart, by eminent members of the profession, which will make their appearance from time to time during the year. Altogether we promise our readers a specially good feast for the coming year, which we trust will be to them a most successful one.

#### DECEMBER ANNALS OF SURGERY.

We take great pleasure in referring in terms of praise to the December number of the *Annals of Surgery*. This publication, though always maintaining a very high class of surgical literature, has in this number certainly greatly surpassed its former efforts.

Over 250 pages of original matter dealing with most important subjects in surgery, accompanied by most excellent illustrations, are set forth in this one number. The following is the table of contents:

I. On the Morphology of Carcinoma and the Parasitic Theory of its Etiology. By Geheim-Medizinalrath Professor Doctor Johannes Orth.

II. The Present Position of the Surgery of the Hypertrophied Prostate. By J. William White, M. D.

III. Intussusception of Meckel's Diverticulum. By W. Watson Cheyne, C. B., F. R. S.

IV. The Operative Treatment of Cancer of the Breast. By J. Collins Warren, M. D., Hon. F. R. C. S. (Eng.)

V. Modern Bullet Wounds. By Frank W. Foxworthy, M. D.

VI. Some Experiments with a New Method of Closing Wounds of the Larger Arteries. By George Emerson Brewer, M. D.

VII. Birth-Fracture of the Skull. By James H. Nicholl, M. D.

VIII. Divulsion in Oesophageal Strictures by Means of a New Instrument. By Robert Alessandri, M. D.

IX. Parotitis Following Injury or Disease of the Abdominal and Pelvic Viscera. By Brennan Dyball, M. B., B. S., F. R. C. S.

X. Duodenal Ulcer. By William J. Mayo, M. D.

XI. Tetany, and Foreign Bodies in the Stomach, By James P. Warbasse, M. D.

XII. Intra-Abdominal Torsion of the Entire Great Omentum. By Charles L. Scudder, M. D.

XIII. Hernia of the Bladder Complicating Inguinal Hernia. By Francis J. Shepherd, M. D., C. M.

XIV. Dermoid Cyst of the Pelvic Connective Tissue. By Harry H. Germain, M. D.

XV. The Iliac Extraperitoneal Operation for Stone in the Lower Ureter in the Male. By Harry Atwood Fowler, M. D.

XVI. Undescended Testicle. By Walter B. Odiorne, M. D., and Channing C. Simmons, M. D.

XVI. I. Hypernephroma of Kidney. II. Fibro-Adenoma of Inner



Wall of Ileum. By Francis S. Watson, M. D.

As this issue completes the first twenty years of its publication, we congratulate its editors and publishers upon their excellent record established and sincerely wish them more successful and greater achievements in the coming years. O. M. S.

### OUR ADVERTISING POLICY.

We have occasionally had a word to say in reference to our policy of maintaining clean advertising pages, but as yet have not emphasized our position by reference to any particular case, regarding that, as a rule, of doubtful expediency. Occasionally, however, instances arise for departing from a regular policy. Such is a case in hand and we furnish here copies of the correspondence and of the advertisement submitted. As a journal devoting special attention to tuberculosis, we feel that this particular case should be called to the attention of our readers.

The following letter and copy of advertisement have been submitted to us:

Binghampton, N. Y., Jan. 10, 1905.  
Colorado Medical Journal,  
Denver, Colo.

Dear Doctor:

The Bromin-Iodin Chemical Company, of this city, was established by Dr. Ingraham in 1894, and was incorporated in December, 1904, at which time I was made the advertising manager, although having no pecuniary interest in the company.

The advertising carried heretofore in the \_\_\_\_\_, of Chicago, costing

\$15 per half page monthly, has been discontinued because it has not paid its cost during the year, and advertising placed once a month in the \_\_\_\_\_, of New York, has been discontinued because three insertions, two of a half page each costing upward of \$15 per insertion, and a one-fourth page ad. costing upward of \$9 per insertion, did not produce even an inquiry.

I enclose herewith copy of ad. which we are going to place in such medical journals as we can arrange with, (several have already accepted) also in newspapers and magazines that reach the general public; this latter method will create a demand on physicians by the consumptive laity, and our advertising in the medical journals would appeal directly to the physicians; the ad. enclosed will be electrotyped for each medical journal and if you accept the proposition which is made in this letter, your key number would be as marked in red ink.

Since I took hold of the advertising of the incorporated company, I have secured a great many splendid endorsements from first-class, ethical physicians, and said endorsements will be printed in the booklet spoken of in the advertisement, which I expect to mail prior to the 15th of this month.

My proposition is, that you run the enclosed ad. three (3) months, gratis, (I will furnish electro) and every reply that comes from your publication will be placed on a card together with the name and address of the physician making it, and every order coming from that physician will be credited for its full sum to your publication as

having produced the original inquiry for booklet. You know if the ad. pays the B-I Chem. Co., they will be only too glad to continue their ad. at your regular rates thereafter, and on the other hand it will cost you not a cent to carry the ad. as every word is electro-typed and will cost nothing for setting; if this proposition suits you, on receipt of word to that effect, I will send you prepaid electro.

Sincerely,

E. K. HANLEY, Pub.

P. S. If you accept the foregoing proposition, if you would like to send out some of the booklets when writing physicians with whom you correspond, I will be glad to send a quantity prepaid, as this has been suggested to me by other publishers who have accepted the proposition.

E. K. H.

#### ADVERTISEMENT.

(Formula of Dr. Charles Wilson Ingraham.)

#### CONSUMPTION

*Asthma, Bronchitis, Eczema, Goitre, Hay Fever and Pneumonia are all curable when treated with*

#### BROMIN-IODIN COMPOUND

It is not only unnecessary but foolish to go away from home in order to secure relief or cure for consumption or any of the diseases mentioned, because there is no climate on the face of the earth in which tuberculosis is not common among the native population; or where people do not contract tuberculosis and die of it just as they do here. If you doubt this assertion, investiga-

tion will prove the truth of the statement.

If you are comfortably clothed, have plenty of nourishing food, an abundance of fresh air and sunshine, the proper kind and amount of exercise, you are better off at home, regardless of climate, than elsewhere. Under the care of a competent, conscientious physician, if you are in the first or incipient stage of consumption, you can be certain of a cure in nearly every instance. If the disease has reached the second stage, more than fifty (50) per cent. of cases are curable, and if you are in the third or hopeless stage, you can be greatly relieved.

#### BROMO-IODIN COMPOUND

Is always administered by a physician and is never sold to the public.

Physicians in every part of the United States and Canada administer the compound, and if you will write for our booklet, we will mail a copy free, wherein you can find endorsements by prominent physicians from many sections of the country. Give us the name and address of any physician you prefer when you ask for the booklet, and when we mail it to you we will, at the same time, request him to administer our compound for your benefit. If you have no choice of physician, we will send the name and address of the one nearest you.

Physicians should ask for this booklet.

BROMIN-IODIN CHEMICAL CO.,

41 Ingraham Building.

Binghamton, New York.

To this we replied as follows:

Mr. C. Hanley,  
261 Main St.,  
Binghamton, N. Y.

Dear Sir:

Your favor of January 10th with reference to advertising for the Bromin-Iodin Chemical Co., of your city at hand and contents noted. The fact that you intend to advertise their product in "newspapers and magazines that reach the general public" would preclude our accepting any contract whatever for their advertisement. While there are certain classes of articles, such as foods, preparations of oils, malts, alcoholics, and even simple laxatives, for which we are willing to carry advertisements, although advertising to the laity, we do draw the line at all preparations in the use of which the judgment of the physician is an unquestioned necessity.

We hold that in the administration of all such remedies, the wishes of the patient, unless they meet the thorough approval of the physician, should not be yielded to by the physician nor stimulated by the manufacturers. I regret that you find it advisable to advertise to the laity, and also regret that you find medical publications of good standing which will accept your present proposition. I am quite confident that the end-result will be that you will be compelled to depend upon quack physicians for the further exploitation of the remedy under discussion.

Very truly yours,

It might be well for our readers to note the character of any medical journals which they read and which carry this advertisement.

We have always tried to maintain a high standing for our advertising as well as our scientific pages. We have never prostituted the scientific pages by admitting to them advertising articles under the guise of (pseudo-) scientific papers, clinical investigations or case reports. For that reason we have not been able to secure contracts from a number of firms advertising extensively and have the correspondence to show that that is the reason. Occasionally we have, through error in judgment, admitted an objectionable advertisement to our advertising pages, but such has been promptly discontinued as soon as its objectionable nature was discovered. The COLORADO MEDICAL JOURNAL is not dependent for its existence upon securing objectionable advertising support. Should it ever become so dependent it will die or pass out of the hands of the present management.

---

#### A POSSIBLE UNSUSPECTED SOURCE OF TUBERCULOSIS OR OTHER INFECTION.

"A possible cause of tuberculosis contagion which we do not recall having seen mentioned is the not uncommon practice of cooling the food of an infant fed with a spoon, by blowing on each spoonful. Even when the nurse or attendant is beyond the suspicion of tuberculosis or other infectious disease, the practice is unsanitary and should be forbidden."—*New York Medical Journal and Philadelphia Medical Journal*.

It strikes us that this is rather far fetched, and Dr. Foster hereby places

himself among the ranks of the extreme bacteriologists, or what we may call bacteriophobes. One swallow does not make a summer, no more does one tubercle bacillus produce tuberculosis, nor even is a considerable number of tubercle bacilli competent to do that. Otherwise, we were all long since dead and the earth, so far as the human lives are concerned, an uninhabited desolate waste.

It is yet to be demonstrated that any considerable number of germs of any kind are propelled from the mouth by the act of blowing. Certainly the number can not compare with those effected by coughing, and, in coughing, it is only when particles of saliva are thrown from the mouth. While tuberculosis is undoubtedly contracted through the digestive tract, and especially in young children, nevertheless, the dosage necessary is very considerable even though not determined. While from an aesthetic point of view, Dr. Foster's point is well taken, from a sanitary point, his views are considerably exaggerated.

---

Drs. Leonard Pearson and S. H. Gilliland, in a paper read before the

Pathological Society of Philadelphia, give the results of experiments on vaccinating tuberculous cattle with human tubercle bacilli and injecting tuberculin. Twelve tuberculous calves were isolated; six were kept as controls and six were given the treatment just indicated. Some of the calves were killed, some of them died. Comparative autopsies gave evidence of the unequivocal benefits of the treatment.

---

### SANOSIN.

Sanosin is a much advertised remedy for consumption, especially exploited by quacks and irregular practitioners. It was devised and prepared by Professor Sommerfeld, of Berlin, who claimed favorable results. A daily newspaper of Frankfurt, *mirabile dictu*, warned against its use, stating that it would injure even healthy lungs and was likely to increase the process in the tubercular. Suit for damages was brought, but, medical experts testifying that, even though it might produce temporary amelioration (like so many others) it could not heal the lungs, a verdict was rendered in favor of the paper.

---

The Ohio State Board of Health now makes free diagnostic examinations in suspected cases of tuberculosis, diphtheria, and typhoid fever.

---

The Solicitor General of New Mexico has given an opinion greatly restricting the powers of the territorial Board of Health. He holds that the

board has no right to exact license fees from traveling medicine vendors; that it has no right to arbitrarily exclude from its list medical colleges in good standing, and that it has no discretion about admitting to practice in the territory graduates of such colleges, not having any right to examine them as to their fitness.

## PROGRESS OF MEDICINE.

### Tuberculosis.

*Conducted by Wm. N. Beggs, A. B., M. D., Denver, Colorado.*

#### THE EARLY DIAGNOSIS OF TUBERCULOSIS.

Dr. William Fitch Cheney, of San Francisco, has a valuable article on this subject in *American Medicine* for October 22, 1904, in which he discusses practically the diagnosis of pulmonary tuberculosis in its earliest appreciable stages under the following:

1. *History.* Too much cannot be said of the value of a careful and painstaking history. It requires time, but it is worth while.

Too much stress is usually laid upon the family history. It should not be given any considerable weight, unless the individual has been closely associated with the parent or brother or sister who has the disease. On the other hand, if the individual has been closely associated with some one who has pulmonary disease, the negative family history fades into insignificance.

The personal history of the patient is of more importance. The significant point is "how he lives." It is important to know whether his habits or work are such that he lives much in the open air, or whether, on the other hand, he spends many hours every day in a shop, an office, or a factory where he comes in contact with many other people, because tuberculosis is a house disease.

The history of previous illness is of importance simply because it may indicate a predisposition to tuberculous infection. Certain acute diseases seem not only to lower the vitality and decrease the general resistance of the individual, but also to prepare the soil for growth of the tubercle bacillus in the lung; such, for instance, are measles, whooping cough and influenza. Certain of the chronic diseases, especially diabetes, similarly lower the vitality and increase the likelihood of tuberculosis. There is only one disease, however, that makes the history exceedingly suspicious, viz., pleurisy.

The most important evidence is furnished by the history of the present illness. Here the symptom most suggestive of pulmonary tuberculosis is persistent cough. It is a suspicious symptom, but that is all. On the other hand, the patient with beginning pulmonary tuberculosis may have no cough at all, or so little that he is not aware of it.

The second symptom is expectoration. Usually in early tuberculosis there is little or none; so that if the patient states that he has no expectoration, this should not be taken as conclusive proof that he has not consumption. On the other hand, expectoration does not always come from

the lungs, but may come from the nose and throat.

Even though the physical signs are doubtful or negative, a patient who has had hemoptysis should be looked upon with suspicion and carefully and repeatedly examined during the weeks that follow, for tuberculosis is by far its most common cause.

Another suspicious symptom is persistent hoarseness. This always calls for examination by a specialist; and if tuberculous infiltration of the larynx is found, it is almost certain that there is a patch of trouble in one of the apices.

"But the common early history of pulmonary tuberculosis is summed up in the patient's complaint that he is 'all run down.' When questioned as to what he means by this, the patient gives a story of lack of energy and ability to do his work, loss of ambition, tiring easily, feeling weak, poor appetite, and restless sleep. We hear this story so often, that we are apt to forget its possible significance; and it is so much easier to write out a prescription for a tonic than to investigate the lungs, that the patient only too often is sent away with a diagnosis of nervous prostration and a tonic, but without a physical examination of any kind. Such a history as that described is the most suggestive one of all for early tuberculosis, and should prompt the most thorough and painstaking investigation by every possible method. But, for that matter, in this early stage of pulmonary tuberculosis any history elicited can be only suspicious, never convincing; and other methods of in-

quiry are always needed to establish further proof."

2. *Physical Examination.* Certain points in the general condition first demand attention. The weight is apt to decrease very soon after tuberculous infection occurs. But the patient's statement about this should never be accepted. The scales alone can decide the question, and the patient's weight should be taken at least once a week, and best with the patient stripped. Steady, continuous loss of weight, even though slight, is always an important bit of evidence.

The temperature is usually slightly elevated, even in very early stages. Taking it two or three times a day gives no information of any value; it should be taken regularly every two or three hours during the day and evening.

Of course the most important part of the physical examination is that of the chest itself. Two points of utmost value in making this examination are the following: 1. The body must be bare to the waist. It is utter nonsense to attempt an investigation unless the clothing is entirely removed from the chest, for one must see the whole thorax in order to gain reliable information. 2. One must have the patient in a good light; we are looking for fine changes in early tuberculosis, and one cannot expect to find them in a dark room.

The affected side very early becomes restricted in its movement. The angle of the scapula often shows the difference when the infraclavicular region does not; the scapula does not move as

far from the middle line of the back on the affected side, or it lags behind the other when a deep breath is taken.

As for change in contour of the chest, it must not be expected in early tuberculosis, but sometimes a prominent clavicle on one side gives us a clue when other signs are vague.

In early infiltration it is next to impossible to make out change in the vocal fremitus and not much aid is to be expected from that sign.

Percussion tells us least of all of our methods in the early diagnosis of pulmonary tuberculosis and it is practically impossible in the early stages to make out any alteration in the resonance.

"Auscultation, on the contrary, is the most valuable method of all. Here our text-books as a rule give a wrong impression, for they set the examiner to look for bronchial breathing, something louder and harsher than the normal vesicular sound. What is really heard in early tuberculosis is (a) feeble breathing over the affected area, more distant and subdued than is heard on the sound side. Frequently this error has led to a wrong conclusion as to the site of the disease, and the sound area has been taken for the afflicted one. Besides feeble, distant breathing there is early heard over a tuberculous infiltration (b), a prolongation of expiration, so that this becomes as long as inspiration or longer than it. This is certainly an early and characteristic sign. Still another is (c), the pleuritic friction squeak, heard over one or the other apex, due to a localized pleurisy over the patch of diseased lung. (d) Increase in the loudness of the

transmitted voice sounds is a fourth and very important sign, even in the early stage. But when it comes to the (e) rales, they are like dullness on percussion—one must not count on finding them in order to make a diagnosis. Commonly they are not heard at all, even when the foregoing auscultatory signs are all positive. If rales are heard, they are crepitant or subcrepitant in character. If not heard by ordinary examination, they may be elicited by having the patient cough and then take a deep breath; or by examining after the patient has taken iodid of potassium for several days; or by examination during the reaction from a diagnostic dose of tuberculin."

"Finally, no man, however expert, has any right to give a positive opinion after one physical examination in early pulmonary tuberculosis. Repeated examinations are required, for the signs at this time are never so definite as they are later on, and from one investigation it is easy either to overlook the deviations from the normal, or, on the other hand, to magnify their significance."

3. *Microscopic and Chemical Examination.* It does not seem to be generally recognized by the profession that when tubercle bacilli can be found in the sputum the case is no longer an early one. It is always proper to make repeated examinations of the sputum in a given case, but to remember that a negative finding is never a bar to the diagnosis of early tuberculosis.

The blood count and the differential count of leukocytes tell us nothing regarding the presence of early tubercu-

losis, but are often of great value in differential diagnosis.

The urine examination likewise gives us no help in the early diagnosis, but is of assistance in the exclusion of other diseases that must be differentiated.

4. *Specific Tests.* The author believes that not too much importance be attached to the presence or the absence of the reaction in the tuberculin test, unless the other evidence coincides. He also believes that the agglutinative test of Arloing and Courmont is too variable and too uncertain to give any practical results.

5. *The Roentgen Rays.* The Roentgen rays do not tell us anything that could not be found out in other ways, although it is valuable in corroboration.

**SOURCES OF ERROR.** Finally, the sources of error in the diagnosis of early pulmonary tuberculosis may be set down as three:

"1. Preconceived ideas: We are too apt to approach the examination of a case with our minds made up beforehand that the patient has or has not tuberculosis, and then find the facts such as will support our view. Prejudice and bias often keep us from seeing what would otherwise be perfectly plain.

"2. Inattention to details: In any early diagnosis we are dealing of necessity with slight changes from the normal, and it is by many little things that by themselves mean nothing, but put together mean everything, that a diagnosis must be reached.

"3. Lack of persistence in examinations: No man can expect to reach

a decision by one investigation; he must go over his evidence again and again, and expect to spend much time if he is to reach a conclusion that is certain; and in this occupation, as in scarcely any other, he may feel that his time could not be better spent."

#### THE OPEN AIR TREATMENT OF TUBERCULOSIS IN OHIO.

Dr. John B. Sawyer, in an article read before the Ohio State Medical Society at its last meeting, and published in the *Columbus Medical Journal* for September, urges that in those cases not adapted for change of climate, either on account of economic or clinical causes, a strict open air treatment in their own locality should, so far as possible, be carried out. He says that in a dozen cases in which this plan has been followed "without exception there has been express benefit and improvement in the physical signs in each case in which there has been sleeping at least with wide open windows, with the following up of open living in all conditions of winter air in Cleveland and the immediate adjoining territory." Sawyer makes no claim for a specific cure but asserts that the natural defenses of the body will be most efficiently strengthened by procedures which are other than those of dosing by teaspoon and capsules. He urges that in cases kept at home, the profession should not neglect to copy the universal requirements of the successful hygiene adopted in those great foci of the struggle against tuberculosis. (The sanatoria.)

He also says: "It has been the com-



mon practice to protect the patient with incipient tuberculosis from any slight exposure to air from inequalities of temperature, to rigorously see that no cold water touches them lest they take cold. In our steam and furnace heated buildings with sleeping arrangements and living habits adjusted to these requirements, the tuberculous patient in this region has especially suffered from the lowered physiologic tonus which results, and the whole population, many not yet tubercular, become good soil for the same reason, so that protection overreaches itself and becomes an invitation to infection and an accessory to its completed development.

Notwithstanding a most rigorous and severe winter, Sawyer has had a number of patients pursuing, as far as possible, open air living and has demonstrated that this plan is perfectly feasible even in unfavorable or harsh climates. A characteristic feature is that, without exception, patients thus living, acquire a dislike for sleeping in the house and have a feeling of oppression when they attempt it. Of course other hygienic measures are likewise employed, such as attention to diet and rest or exercise.

In his paper, Sawyer gives a couple of cases—histories of characteristic course.

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## Ophthalmology and Otology.

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*Conducted by Melville Black, M. D., Denver, Colo.*

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### TUBERCULAR LARYNGITIS.

Dr. Thomas J. Gallaher, Denver, in a paper presented to the section on Laryngology and Otology at the Fifty-fifth Annual Session of the American Medical Association, deals with "Tubercular Laryngitis; Prognosis and Treatment." The paper and discussion thereof were published in *The Journal A. M. A.*, October 29, 1904.

In speaking of lesions, he says that they may be superficial or deep and of an infiltrative or ulcerative character, and that both conditions are associated with more or less edema. Both superficial and deep infiltrations may remain quiescent indefinitely.

As in other parts of the body, tubercles may undergo (a) softening; (b) fibroid limitation; (c) calcification. Softening is followed by ulceration, and this, as the result of treatment, may be followed by cicatrization, but I have never seen a spontaneous cure of tubercular ulceration of the larynx.

It is impossible to give an abstract prognosis, but if the entire larynx is affected, including the perichondrium and cartilages, the case is hopeless. Ulceration of the commissure and epiglottis are, in my experience, most intractable—that of the true and false vocal cords yields more quickly. With extensive and rapidly breaking down

pulmonary areas, the reparative process in the larynx may be *nil*, but with slight pulmonary involvement, general condition good, the prognosis is more favorable. "Laryngeal manifestations seldom improve under any treatment unless the pulmonary and general conditions improve."

"To say that all cases of laryngeal tuberculosis are fatal is erroneous; I have seen many cases in one stage or another recover; some who were apparently doomed, in which extensive involvement of the larynx had occurred, including considerable destruction of the epiglottis. I have had two cases in the last year in which from one-fourth to one-third of the epiglottis was destroyed, and yet the patients recovered.

Many have recovered in whom the true and false cords and commissure were affected, either alone or in combination.

In every case it is our duty to give these patients the benefit of our best efforts as early and as thoroughly as possible.

Too often patients present themselves with a hopeless condition of the lungs as well as of the larynx, yet we must not be discouraged in our efforts to save those who have a possible chance for life.

In non-surgical cases the treatment consists of thorough cleansing of the larynx and the use of soothing sprays.

If surgery be necessary, the infiltrated area should be thoroughly removed and the parts stimulated to promote cicatrization. If ulceration has taken place, thorough curettement should be

done—removal of vegetations if they be present—followed by the energetic application of strong germicidal remedies.

In the office treatment of tubercular ulceration of the larynx, the doctor uses a 3 to 5 per cent, formaldehyde solution thoroughly rubbed in, after which he insufflates with aristol or orthoform and follows this by the intratracheal injection of oil containing menthol, oil of cinnamon, etc. In addition to the above, he directs his patients to spray the larynx several times a day with formaldehyde solution, one drop to three ounces.

He says of electrolysis, X-rays and radium, that their influence has not been sufficiently demonstrated to warrant their general use.

In the discussion of Dr. Gallaher's paper the following points were brought out:

*Dr. W. Freudenthal*, New York City, said: In laryngeal tuberculosis we may expect anything and everything. When we succeed in putting these ulcerations at rest by means of a narcotic, nature will do the rest, and they often heal up while the process in the lungs is getting worse. The doctor had tried radium intralaryngeally, (radio-activity not mentioned) in a case with ulceration of the vocal cords, from which he obtained about the same results as the laryngeal changes that were observed when Koch's tuberculin was first used some years ago. Because of the infiltration that took place the patient was enabled to speak with some voice. Some edema appeared

after the tenth treatment with radium and it had to be suspended for a day. "While I did not accomplish a great deal, it was an interesting experiment."

*Dr. W. Sanderson*, Detroit, believes that soothing applications are better than irritating ones and indorses the use of intra-tracheal injections for which he uses such drugs as guaiacol, camphor, menthol, oil of thyme, oil of wintergreen and oil of eucalyptus, with olive oil as the base.

*Dr. W. E. Casselberry*, Chicago, welcomes any new remedy but is sceptical with regard to its efficiency. Though recognizing their power to relieve pain and distress in some cases, he does not believe that local remedies have much influence on the final outcome of the case.

He concurs with *Dr. Gallaher* in that one should hesitate before breaking up a mere infiltration. Active, circumscribed, and accessible ulceration may be curetted with good results, especially if supplemented by the application of lactic acid.

Having seen cases where the lungs grew progressively worse while the laryngeal lesions improved, he cannot quite agree with the reader of the paper.

*Dr. Casselberry* asked *Dr. Gallaher* how he managed to have a patient spray his own larynx.

*Dr. Kate W. Baldwin*, Philadelphia, called attention to the use of carbolic acid and the good results from it, especially when coupled with the use of the X-rays.

*Dr. Ross H. Skillern*, Philadelphia, said that he had often noted marked improvement in the local lesion while the general condition was growing worse. He thinks that curettage should only be employed in cases where there is a fair chance of curing the disease.

He does not see that anesthesin is any better than orthoform, but when the latter loses its effect the former proves a good substitute.

*Dr. Otto T. Freer*, Chicago, thinks that we should not lose sight of the fact that the galvanocautery may be of service in some cases of tubercular ulceration of the larynx and cites one case in which it produced the best results. This case, however, surprised him, for in his experience recovery from tubercular laryngitis is a rare event.

*Dr. J. F. McConnell*, Las Cruces, N. M., mentioned the decided beneficial results, in a palliative way, that he had obtained from the application of a 2 per cent. solution of methylene blue.

The author, in closing the discussion, reiterated some of the points made in his paper and beside said that the method of spraying the larynx was not learned in a day, but by repeated efforts and the proper instruction four out of ten patients would learn to do so.

He placed emphasis upon the care that should be exercised before deciding to use the curette, if used, the thoroughness with which it should be used and the great benefit following curettage in cases that would otherwise go from bad to worse.

## SOCIETY REPORTS.

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### Medical Society of the City and County of Denver.

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A regular meeting of the Medical Society of the City and County of Denver was held at the McPhee building September 20, 1904.

The president being absent, Vice President Macomber occupied the chair. Dr. Lockard was absent and Dr. Carmody was appointed secretary *pro tem.*, after being elected to membership in the society.

Drs. J. A. Farnsworth, E. Garvin, G. E. Neuhaus, Jas. de Lewandowske and D. E. Neuman were also elected to membership in the society.

Dr. Philip Hilkwitz read a paper entitled "A Case of Echinococcus."

The paper was discussed by Dr. Jno. Boice.

Under the head of five minute talks the following were given:

*Dr. Boice* reported a case of gunshot wound showing what extensive injury the anterior portion of the brain may sustain without apparently bad results. On August 4, last, a young man 18 years old, in the employ of the Rio Grande Railroad was brought into the County Hospital with a gun-shot wound of the face. On examination, it was found a charge of small bird-shot had torn away the right malar bone and zygoma, many of the shot passing through the eye and the lower orbital plate; the base of the skull was also fractured in all directions from,

and including, the petrous portion of the temporal bone forwards and inwards. Quite a number of fragments of bone, but no shot, were removed and the large wound packed with aseptic gauze. The eye, being destroyed, was removed by Dr. Jackson the following day. On the third day the boy was sitting up in bed and on August 13, nine days after injury, he was transferred to Dr. Devlin, the Rio Grande surgeon, and walked out of the hospital to his own home, several blocks away.

He was not unconscious at any time while in the hospital. The result was considered due to the absolutely free drainage.

*Dr. F. Gillette Byles* reported a case of typhoid fever with an unusual variation of temperature caused entirely by nervous excitement.

O. H., a young man aged 21, whose home is in Michigan, has never been sick excepting that he has had asthma for about two years. He came to Colorado on that account about two months ago, has not had asthma since coming to this state. For several years has been a cigarette fiend. He was taken sick about August 22. I first saw him August 25 and had him removed to the hospital the next day, when his temperature was 105°. From the time of his entrance to September 4, his temperature ranged from 99° to 104°, but

had not been above  $102\frac{1}{2}^{\circ}$  for four or five days preceding September 4. On this day, the 13th of his illness, it ranged from  $101\frac{1}{2}^{\circ}$  to  $102\frac{1}{2}^{\circ}$  at 6 p. m. About 9 p. m. he wanted the nurse, who was so engaged that she could not get to him for a few minutes after he first rang for her. When she reached him she found him in a state of excitement which developed into a distinct chill which lasted 25 minutes. During the chill, the axillary temperature was  $106^{\circ}$ . After the chill the temperature began to fall rapidly and at 3 a. m. it was at  $96^{\circ}$ , making a drop of 10 degrees in 5 hours. There were no hemorrhage, no diarrhoea, no excessive perspiration, no baths, no change in the treatment, to cause this variation of temperature. I believe it was entirely due to nervous influence. The only excessive discharge from the body was from the kidneys, the patient having voided 49 ounces of urine during these five hours.

*Dr. T. M. Burns* reported a case of puerperal infection with treatment. His practice was, in cases of puerperal infection, to give very hot intra-uterine douches of 1 to 8000 or 1000 solution of bichloride, three or four gallons in quantity, not repeating the douche as long as the temperature was decreasing. Discussion followed.

*Dr. Pfeiffer* said he never used the intra-uterine douche after the first week of the puerperium, but fought the infection with whiskey, strychnine, and quinine.

*Dr. Love* said she had had excellent

results with hot uterine irrigations at all stages of puerperal infection.

On motion the society adjourned.

The Medical Society of the City and County of Denver held a regular meeting December 6, at the McPhee building.

The scientific program was as follows:

1. *Dr. Julia Sears* read a paper entitled "Minute Pulmonary Hemorrhages and their Relation to Early Tuberculosis."\* The paper was discussed by Drs. Simon, Oettinger, Denison, Beggs and Sears.

*Dr. Simon* said: Hemorrhage in early phthisis often produces a detrimental effect all out of proportion to its size. This can only be explained by its influence upon the nervous organism of the patient. It is for that reason that morphine acts so well in the great majority of hemorrhages.

All hemorrhages are by no means pulmonary, and the physician should investigate very carefully into every other possible source before deciding, especially in the absence of any physical signs in the lungs, as blood may have come from the posterior nares, pharynx, larynx, etc.

I have met with moderate sized hemorrhages in the course of a pulmonary tuberculosis which I considered apparently favorably influencing the course of the disease.

I believe in cases of passive pulmonary hemorrhages, deep breathing acts exceedingly well. I had a patient with

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pulmonary tuberculosis who had been bleeding almost continuously for six weeks, although every conceivable remedy had been tried without avail, and who almost immediately ceased to bleed when he was made to breathe deeply for several minutes every two hours.

Dr. Denison drew attention to the physical conditions which have to do with pulmonary hemorrhages, as favoring the idea, which was his also, that tubercular processes are the chief cause of them.

We get a good insight into the etiology of these early hemorrhages by answering the question: *Why is the expectorated blood of the bright red color of arterial blood elsewhere?*

If the pulmonary arterial system which, as is known, carries dark venous blood, had suffered a rupture or traumatism, the resulting hemorrhage would be of like venous color.

If, however, these pulmonary arteries were occluded, either by emboli, stoppage from inflammatory processes within, or by pressure from without, through glandular enlargement, or tissue infiltration, then he believed the following explanation is perfectly consistent with the initial changes due to tubercular infection, namely, the terminal arteries beyond such occlusion do not anastomose while the capillary venous vessels, into which these arteries empty, do anastomose.

The pressure of the air, contained within the affected area, must be reckoned with, changing, as it does, in density with inspiration and expiration,

and especially under exercise and during a cough.

During the negative pressure-state in the air cells, which precedes a cough and is aggravated during a sigh or deep inspiration, the venous blood, already oxygenated, is sucked around through these anastomosing veins into these pulmonary arteries. There, during a succeeding cough, or during an exaggerated pressure-state from over-exertion, it is literally packed. The over distended air cells, already partly occluded, or with their walls perhaps weakened by inflammatory processes, have either to rupture, or effusion of the liquid contents of the blood (diapedesis) has to take place through these overstretched enveloping walls. The blood from such lesions is therefore arterial. The explanation seems to be in harmony with the pathological condition which has led up to hemorrhage. Therefore, not having reference to hemorrhages from traumatism, ulceration, or pulmonary cavity, we are warranted in attributing these hemorrhages, and hemoptyses too, to a tubercular cause.

This explanation is in accord with the measure mentioned of stopping hemorrhages by deep breathing. He believed it was not so much the *depth* as its sustained pressure, as when one holds his breath gently straining after a full inspiration. His patients had been taught to carry out this method, measuring the time in one act of breathing with watch in hand to count the seconds. A gradual increase of the time one can hold his breath can be

tried, the resulting improvement being the guide.

It seems that this increased pressure (not too much exaggerated) within the air spaces acts upon the congested area just as does a properly adjusted bandage on a swollen limb, and the possibility of outward rupture or effusion is thereby lessened.

Again this explanation is in accord with the excellent results obtained by the speaker from strapping the affected side of the chest for the control of hemorrhages of congestive origin. That is the method of using fan-shaped adhesive plasters (overlapping each other in the axillary region on the affected side) extending to and pulling on a collar made to fit loosely around the opposite shoulder. By this means the control of the congestion, through the limitation placed upon the varying pressure-state, in the affected area, is very satisfactory.

*Dr. Beggs*, continuing the discussion, said:

I dislike very much for a speaker to begin with an apology, yet that is the position which I am compelled to assume to-night, for being late and for not having been able to prepare all the material I desired. I had hoped to be able to go over all of my case records with reference to this point of hemorrhage as the first symptom of pulmonary tuberculosis. This I have not been able to do for lack of time. I have not even been able to go over all the histories of my cases in the last four or five years, which I keep according to the card-index system. Taking them in alphabetical order, however, as far

as I had the time, I have examined some four or five hundred records and have been able to find fifty such cases, and, inasmuch as they have been selected without discrimination, the same proportion would probably hold true for all my cases.

As to the proportion of cases of pulmonary hemorrhage in which pulmonary tuberculosis did not exist or follow, I do not feel qualified to express an opinion from my own experience. Such a large percentage of my patients are definitely tuberculous, that it leaves too small a percentage in general medicine to entitle me to draw any conclusion. I have had a few cases of hemorrhage, not occurring in consumptives, but they were usually cases with such distinctive lesions as would easily explain them, such as heart disease.

The fifty cases are all cases in which hemorrhage was the first indication of disease, so far as the patient knew. Some of them were a severe hemorrhage, others slight. There had been no uniformity as to the presence or absence of distinct cause for the hemorrhage. In some of the histories of sharp hemorrhage, it is definitely stated that no known cause existed. In others, it was ascribed to definite influence. The same is true of the slight hemorrhages. Where a cause was given, it was sometimes an unusual physical effort, sometimes mental excitement, sometimes exposure, etc. Of the fifty cases, seven were cases in which the hemorrhage preceded any other symptoms of pulmonary lesion. The periods vary from a few weeks to a number of years, but in them all pulmonary tuberculosis did

develop. This, of course, would tend to make us increasingly suspicious of those cases in which we cannot find evidence of pulmonary tuberculosis at the time of hemorrhage. Nine of the cases were severe hemorrhage, and fourteen cases of slight or moderate hemorrhage. It was distinctly noted in them that hemorrhage was the first sign. In two more of the cases, hemorrhage occurred within the first three days, and in fourteen cases it is specified that the disease began with cough, expectoration, and hemorrhage, and in four the sputum was tinged with blood.

So far as the records which I have examined go, the phenomenon of initial hemorrhage seems to have been without significance as regards either the type or the severity of the disease. Some cases of severe hemorrhage have run a comparatively protracted and benign course, others have been severe and short. The same is true of the cases of slight hemorrhage.

Two of my cases presented the following interesting features: In one of them menstruation had been suppressed for some reason or other and the pulmonary hemorrhage occurred at the time for re-appearance of the same. In the other, a young girl, it appeared as a feature in the establishment of the menstrual function. For two or three months, at the very beginning of her menstrual life, pulmonary hemorrhage occurred, and menstruation did not appear until later. The patient was brought to me early, and an early diagnosis made. This case is also interest-

ing, from the fact that it is one apparently developing in Colorado. The family had moved here years ago, for the mother's health, the other members of the family being apparently healthy. Notwithstanding the early diagnosis, careful treatment, and the conscientious efforts of the family, the case ran a very rapid course. The patient's brother was also a case of tuberculosis apparently developed in Colorado, and is noteworthy from the fact that, out of about twenty-five such cases that I have seen, he is the only one whom I know to be alive, and he is apparently cured. He appeared to me some years ago for an examination, and I could detect no indications of pulmonary disease, and I saw shortly afterwards, that, possibly influenced by the result of my examination, he had married.

The scientific program was here interrupted on account of the absence of Dr. I. B. Perkins, who was to read a paper.

Under the head of five-minute talks Dr. Charles Denison exhibited a new electrode invented by him for applying high frequency currents to the throat.\*\*

At this point Dr. Perkins was reported present and the execution of the scientific program was resumed.

2. A Case of Perforated Gastric Ulcer Cured by Adhesion of the Stomach to the Liver. By I. B. Perkins, M. D. The paper was discussed by Drs. Freeman, Hall and Perkins.

Dr. F. M. Nesmith resigned from membership in the society and the resignation was accepted.

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\*\*Published on page 23.



Dr. J. H. McKay presented a transfer from the Memphis and Shelby County Society of Tennessee and the

transfer was referred to the Board of Censors.

On motion the society adjourned.

### The Denver Clinical and Pathological Society.

The regular meeting of the Denver Clinical and Pathological Society was held December 9, at 1427 Stout street, the president in the chair. The society was entertained by Drs. Van Zant, Hillkowitz, Hickey, Delehanty, and Tausig.

The records of the last meeting were read and approved.

The report of the Secretary for the last year were read and accepted for the files. The Secretary also reported that he had caused 100 copies of the constitution and by-laws of the society to be printed, and the same were ready for distribution. He also reported that he had extended to non-resident physicians, as ordered by the society, to the number of 55, an invitation to accept the hospitality of the society at any of its meetings for the current year.

Dr. Whitney reported for the committee appointed to examine Dr. Wetherill's case of murmur *in utero*, and Dr. Wetherill reported that no murmur was present after the birth of the child.

Dr. Sewall exhibited the lungs of a man presumably dead from thoracic aneurism. No aneurism was found post mortem but the lungs presented evidence of massive anthracosis.

Dr. Childs exhibited skiagraphs of the case showing dense masses in both lungs, that in the right measuring

4x3½x2½ inches, those in the left being smaller.

Dr. Wilder reported the pathology of the case, stating that a microscopic examination of sections from the pigmented areas of the lungs showed a dense mass of adult fibrous tissue, imbedded in which were large quantities of black pigment without any regularity of arrangement, the pulmonary alveoli having entirely disappeared. The pigment not responding to the usual tests for iron showed it not due to inhalation of iron-dust, neither was it of hematogenous origin. Sections from the periphery of the masses show an overgrowth of connective tissue containing more or less pigment, with considerable exudate into the pulmonary alveoli, and many dilated vessels filled with blood. No evidence of recent tubercles was found. Dr. Wilder agreed with Dr. Sewall that the condition was one of an extreme degree of anthracosis. The report of the case aroused a general discussion which was of much interest to the members.

Dr. Stover exhibited: 1. A skiagraph showing a safety-pin lodged in the esophagus of a child, the pin being open and extending point upward. Dr. Rogers reported that, by careful manipulation with bougies, Dr. Pfeiffer was enabled to push it into the stomach, the

pin passing the anus 24 hours later.

2. A skiagraph of carcinoma of the femur. Dr. Lyman discussed the last skiagraph, and reported the case, which was one of fracture of the femur in a woman suffering from carcinoma of the breast. It had been treated 16 weeks with non-union and resulted in carcinoma of the femur.

*Dr. Hillkowitz* exhibited microscopic slides from the liver.

*Dr. Hershey* reported a case treated for a year for neurasthenia, now suffering from Raynaud's disease of the right foot. There was no loss of sensation except in cold weather. Discussed by Drs. Hopkins, Edson, and Lyman.

*Dr. Beggs* reported a case of a child 17 months old suffering from cardiac hypertrophy with mitral regurgitation, rickets, cretinism, mental defect, umbilical hernia, undescended testicle, and congenital absence of both patellae.

*Dr. Whitney* reported a case of edema of the mouth, soft palate, eye, nose, etc., beginning immediately on taking some honey, and probably due to irritation of the ninth nerve. It was treated with adrenalin with relief. Discussed by Drs. Beggs, Levy, Hickey, Stover, Edson, and President Hill, who suggested that the irritation was probably due to an excess of formic acid in the honey.

*Dr. Levy* reported two cases of severe throat lesion. 1. Anterior epiglottitis with symptoms of quinsy; treated by adrenalin solution. 2. Case of Ludwig's angina in a Mexican who had been thrown from a horse, striking on his head and face. Subsequently

there occurred a hard, board-like, sublingual swelling. Treatment consisted of adrenalin internally and poultices externally. Discussed by Dr. Stover.

*Dr. Lyman* reported a case of injury to a woman who half-fell from a street car and, while clinging to the car, was twisted about on one foot. A diagnosis was made of dislocation of the transverse process of a lumbar vertebra. Later, when first seen by Dr. Lyman, she had severe pain above the sacrum and down the sciatic nerve. She was treated by plaster cast and there was no recurrence of the pain. Discussed by Drs. Stover and McNaught.

*Dr. Freeman* reported an operation for excision of the breast in a woman suffering for some time previously with intense pain down the arm and tingling of the fingers. An anomaly was found consisting of strips of the latissimus dorsi muscle passing over the brachial plexus, thus causing pressure on the same.

*Dr. Bonney* reported a case of septic pneumonia in a woman 52 years of age, with sudden onset with pain in the right chest, chill, etc., but normal temperature and pulse. Pneumonic consolidation then appeared in both sides. Venesection was done twice, aspiration of the chest four times, and later a resection for a right empyema. Nephritis, phlebitis, and endocarditis complicated the situation, death resulting. Discussed by Dr. Mitchell, who gave an interesting talk on the bacteriology, giving special consideration to the theory of Ehrlich.

*Dr. Hall* exhibited a heart which, during life, presented a presystolic

murmur, the specimen, however, showing no involvement of the mitral valve, but a considerable number of vegetations on the aortic valve, this condition giving rise to the so-called Flint's murmur.

The society then adjourned; members present, 30; visitors, 4.

F. W. KENNEY, M. D., Sec.

The regular monthly meeting of the Denver Clinical and Pathological Society was held January 13, in the Academy of Medicine building, the society being entertained by Drs. Powers, Pershing, Bonney, Packard and Childs.

The reading of the minutes of the last meeting was dispensed with.

*Dr. Hall* exhibited a specimen of tape-worm, variety unknown.

*Dr. Freeman* exhibited numerous stones from an old and much enlarged suppurating kidney, which was not tender previous to operation. No urine came from the segregator on the right side. The kidney was removed through posterior incision. Discussed by Drs. Powers and Craig.

*Dr. Wilder* exhibited sections from the lungs shown by Dr. Sewall at the previous meeting, confirming the diagnosis of anthracosis and pulmonary tuberculosis.

*Dr. Grant* exhibited a portion of omentum from a male 27 years of age showing torsion of the same, it being gangrenous and attached to the ileum by a broad base, two or three inches from the caecum. Dr. Grant also removed the appendix which was not particularly diseased. Discussed by Dr. Ferguson.

*Dr. Bonney* reported two cases of appendicitis. 1. A young man taken ill in the night with pain. In the morning the temperature and pulse were normal. There was no chill nor vomiting, but slight rigidity of the muscles of the right abdomen. Operation revealed gangrenous appendix. Discussed by Dr. Dickson. 2. A boy 11 years of age had symptoms similar to the preceding. There was some nausea and rigidity and the appendix was much engorged. Discussed by Dr. Dickson. Dr. Bonney also reported: 3. A case of facial erysipelas with temperature of  $104^{\circ}$  and systemic infection. The use of antistreptococcic serum was followed by a drop in the temperature to normal, with a subsidence of the local symptoms in a few days. Discussed by Drs. Sewall, Freeman, Jayne and Edson.

*Dr. Whitney* reported four cases of pneumonia in children: 1. A child 15 months old, with temperature of  $103^{\circ}$ , slight cough, with apical consolidation, which ran a course of six days. 2. A case with rales behind, in both bases, consolidation appearing some days later. 3. A case with a number of convulsions, temperature  $104^{\circ}$ , consolidation at the base the size of a dollar. 4. A child sick two days, having consolidation at both apices. He emphasized the fact that in children pneumonia is often overlooked. Discussed by Drs. Bonney and Pershing.

*Dr. Hall* reported the case of a baby three days old, having had six hemorrhages from the stomach of about a drachm each time, unable to retain food, and having scabs appear on

the face 36 hours after birth. A provisional diagnosis of hyperacidity and gastric ulcer was made. Discussed by Dr. Sewall.

*Dr. Delehanty* reported a case of exophthalmic goitre treated with anti-thyroidin for three weeks, resulting in a drop in the pulse-rate from 130 to 100 and a subsidence of the nervous symptoms. Loss of flesh was marked. The neck decreased in size under treatment. Discussed by Drs. Edson, Pershing, Taussig, Stevens, Hall, Craig and Grant.

*Dr. Sewall* reported a case of pleuritic effusion in both sides (the left containing the larger quantity) which was aspirated several times. Skiagraphs illustrating the condition were shown.

*Dr. Stevens* reported two cases of purulent infection due to metastasis: 1. A case of choroiditis following puerperal septicemia. 2. An eyeball filled with pus, following cheloid growths of the neck with suppuration.

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In Roswell, N. M., Professor S. L. Newman, a magnetic healer and hypnotist, was sentenced to 30 days in jail and to pay a fine of \$25 on December 3, 1904. The case was appealed.

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A case is reported from Evanston, Wyo., of a person being profoundly etherized for several hours from having

The case also had a gonorrheal history.

*Dr. Davis* reported a case of pus in the anterior chamber of the eye following operation for cataract, an operation for empyema having been done just previously.

*Dr. Beggs* discussed the pathology of the case of anthracosis reported by Drs. Sewall and Wilder, considering the condition not to be one of anthracosis, but due to a tuberculosis with fibroid changes, the latter giving rise to the large masses found in the specimen.

*Dr. Gage* reported a case of enlargement of the bronchial glands accompanied by great dyspnea and loss of sleep. Adrenalin chloride was used hypodermatically in doses of six minims, the dyspnea disappearing within two minutes after the administration. Discussed by Drs. Hall and Whitney.

The society then adjourned; members present, 22; visitors, 4.

F. W. KENNEY, M. D., Sec.

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splashed on his face some ether he was using to clean a hat.

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Dr. E. J. Doud, of Denver, a graduate of Heidelberg, committed suicide in Denver December 12, on account of despondency because of the difficulty of building a practice. He was 51 years of age, and was survived by his wife, but had no children.

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## BOOK REVIEWS.

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HALL'S EXPERIMENTAL PHYSIOLOGY.  
A Manual of Experimental Physiology.  
By Winfield S. Hall, A. M.,

M. D., Ph. D., Professor of Physiology in the Northwestern University Medical School, Chicago. In one oc-

tavo volume of 245 pages, with 89 engravings and a colored plate. Cloth \$2.75, net. Lea Brothers & Co., publishers, Philadelphia and New York, 1904.

This volume presents a most excellent guide to the medical student for his laboratory work.

The first part is devoted to experimental general physiology of muscle and nerve tissue.

The second part is devoted to special physiology. It comprises chapters on the circulation of the blood, respiration, normal haematology, digestion and absorption, vision, the physiology of the nervous system and the physiology of the muscular system.

The first chapter, devoted to cytology, forms a most excellent introduction to the study of physiology and of histology.

The entire work is essentially practical and helps prepare the student for his clinical work. In all chapters we have presented the appliances necessary for each experiment, the preparation, and the observation. It is not intended to formulate for the student his observations or the conclusions to be drawn therefrom, but is rather intended to make it necessary for the student to think for himself and derive his own conclusions. In the case of each experiment, the apparatus and the steps of the experiment are clearly described. As a class room work, it may be thoroughly recommended and its perusal will tend to arouse a further desire for further scientific work.

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A DOCTOR'S CONFESSION. By William

Hinshaw, M. D. Illustrated. Price \$1.25. Louis S. Matthews and Co., publishers, 2624 Olive street, St. Louis, Mo.

A very interesting novel bearing on the practice of medicine and having a moral of value to every one starting out in the profession. The hero, or rather the principal character and villain, represents a type of physician, one or more examples of which we have all met and are more or less familiar with. Superficial and originally of rather deficient education as compared with the general standard, he develops into one of the pompous, self-sufficient, deceptive men who make their way with a greater or less degree of prosperity, but depend much upon appearances, show, chicanery, and more or less underhanded methods. For a certain length of time he manages to hold his own in almost undisturbed and undisputed prosperity, even at the expense of others better qualified and of more thoroughly honest integrity. His character, however, is gradually recognized by the members of his profession and, in the end, as is so often the case in works of fiction and not always so in reality, a superior competitor appears upon the scene and by his superiority, although coupled with a great degree of modesty, wins the ascendancy to the bitter discomfort of the hero.

There are many incidents of interest and none of the work is characterized by so great a degree of improbability as to tax the credulity of the reader. The story of the first patient, a hysterical one, is amusing, interesting, and instructive. The latter may also be said

of the various details of scheming as portrayed.

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MANUAL OF SERUM DIAGNOSIS. By Dr. O. Rostoski, University of Wuerzburg. Authorized translation by Dr. Charles Bolduan. First edition, first thousand. Price \$1.00. John Wiley and Sons, publishers, New York.

This little monograph presents in a most interesting, and at the same time, concise way the present state of knowledge on this most interesting modern development of medical investigation. It takes up briefly a discussion of the general considerations of serum diagnosis; typhoid and paratyphoid fever, with the Gruber-Widal and the Ficker test; agglutination in other diseases, the precipitins as diagnostic agents, with the forensic blood test; other diagnostic agents, as Deutsch's hemolytic blood test and Kraus' phenomenon, and Wilson's study on the Gruber-Widal reaction.

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THE PRACTICAL MEDICINE SERIES OF YEAR BOOKS. Comprising ten volumes on the Year's Progress in Medicine and Surgery. Issued monthly under the general editorial supervision of Gustavus P. Head, M. D., Professor of Laryngology and Rhinology, Chicago Post-Graduate School. *Volume VIII. Materia Medica and Therapeutics.* By George F. Butler, Ph. G., M. D. *Preventive Medicine.* By Henry B. Favill, A. B., M. D. *Climatology.* By Norman Bridge, A. M., M. D. *Sug-*

*gestive Therapeutics.* By Daniel R. Brower, M. D. *Forensic Medicine.* By Harold N. Moyer, M. D. Price of the volume, \$1.00; price of the series, \$5.50. The Year Book Publishers, 40 Dearborn St., Chicago.

The present volume is one of the most practical and most useful of the entire series of ten for the general practitioner, for whom the series is primarily intended. The subjects it treats are those which, from their very nature, must be the continuous study of the general practitioner, rather than the specialist, and there is no means by which the advances in these subjects can be presented to him as well as in the present form.

There have been no great advances made in materia medica and therapeutics during the past year, yet a number of new remedies of real worth have been added to our stock and new additions to the uses of our old friends have been not few. The 150 pages, which represent the condensation of only the really valuable contributions in that field, reveal the extent of the work really done.

The section on Preventive Medicine, of interest to all, is of special value to the practitioners of the smaller communities; those with whom the duty of conserving the public health is always present, and who do not shift this duty to the shoulders of the salaried health departments.

Climatology is given more space than usual this year, the contributions to the literature being such as to make that necessary.

# The Colorado Medical Journal

AND

## WESTERN MEDICAL AND SURGICAL GAZETTE

*A Scientific Medical Journal, Devoting Special Attention to Tuberculosis and Climatology—A Journal of Science, of News, and of Medical Lore.*

VOL. XI.

DENVER, COLORADO, FEBRUARY, 1905.

No. 2

### ORIGINAL COMMUNICATIONS.

#### A Case of Swallowed Open Safety Pin.

By O. J. PFEIFFER, M. D., Denver, Colorado.

Thursday evening, November 17, an infant of eight months was heard by its parents, in an adjoining room, to give a choking strangling cough, and when they ran in to see what was the matter, the child appeared to be all right and looked up laughing. Investigation, however, showed that it had pulled off its sock and loosened a safety-pin which had fastened it in place. The safety-pin had disappeared. It, measured by a similar one from the same paper, was  $1\frac{1}{16}$  inches long and the spread of the point of the pin, when open, was  $\frac{9}{16}$  of an inch.

On Friday the child was perfectly normal, had only one little cry of distress, was nursing from the bottle, and additional search had not revealed the pin.

On Saturday, the temperature went up to  $101^{\circ}$ . It seemed time to know if the pin had been swallowed, and if so, where it had lodged. There was no trouble with breathing. Saturday at 2:30 p. m., an X-ray disclosed it

lodged with the spring end at the level of the third rib, the point to the right at the level of the first rib and pointing upward, the clasp above the first rib. It had evidently remained there for two days and was setting up an inflammation, as evidenced by the temperature.

It seemed at once to be another case of the fish-hook in the boy's finger. It was easier to push the barb through, cut it off, and withdraw the hook, than to pull out the barb, for the following reasons: The point of the pin was riding upward and was wedged fast enough to hold it from going down in acts of swallowing. It could not be pulled up through the mouth, for the point would engage in the esophageal wall. It could not be turned around.

An external esophagotomy was a dangerous operation in a child so young, and, even if made, the pin could not be pulled up, and rude manipulations in a baby's throat are serious in their consequences.

I decided to push the pin down into the child's stomach and take the chances of cutting it out of the stomach or into the testines, if it lodged there and caused symptoms of disturbance. Care had to be taken, in pushing the pin down, not to use an instrument that might get between the pin and would not come out. But, after experienced a slightly increased resistance when the region of the pin was lifting it up, bury the point in the esophageal wall. Also, care had to be taken not to force an instrument into the angle of the open pin, spread wide the point and, in forcing the pin down, slit the esophagus as with an urethrotome.

I concluded to use two bougies, reversed, of two sizes, one so small that it might, with its squarely-cut-off, round, open end, catch on the round coil of the spring of the safety-pin at its

angle and force it down, while allowing the pin to close; the other, so large of cutting it out of the stomach and what it would just fill the calibre of the esophagus like a piston in a cylinder, and push down by its clasp end. Under either, the small bougie was passed twice. The first time there seemed to be no resistance when the region of the pin was reached, and again when it seemed to

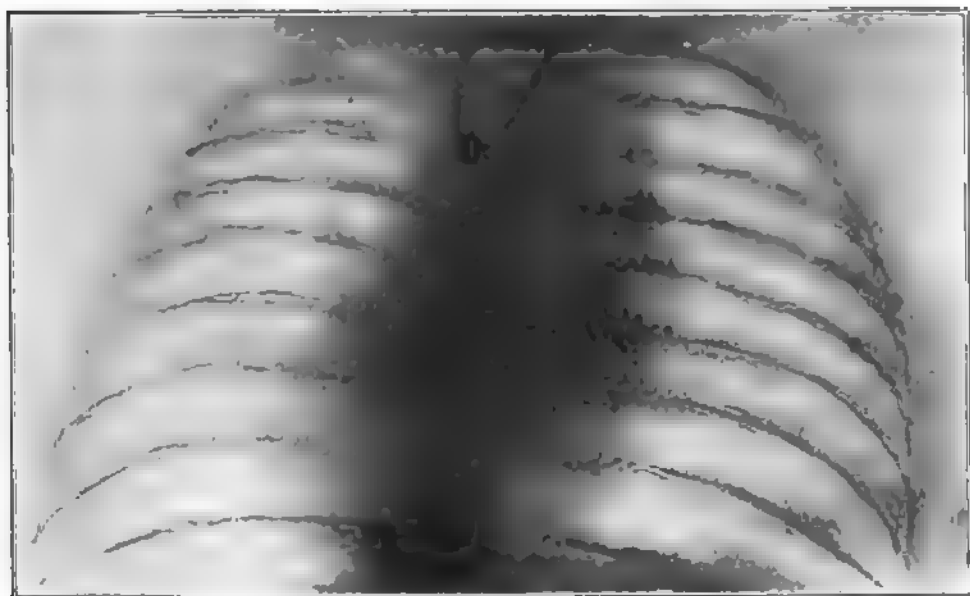


FIG. 1. OPEN SAFETY PIN IN ESOPHAGUS

be going through the diaphragm into the stomach.

To make sure of carrying out both ideas before expressed, the larger bougie, a little less than 5/16 of an inch in diameter, was passed also to sweep the esophagus clear of its contents. As the pin could not turn, it had to go down ahead of the larger reversed bougie, if it had not gone before.

On Sunday at 3 p. m., skiagram 2

\*The skiagraphs, imperfectly produced here, were very poor for reproduction, and instead of retouching the safety pin as instructed, the engraver retouched the whole as shown above.



showed the pin to be in the stomach. It was intended to take skiagrams every three or four days to follow up the pin, but on Monday morning at

would settle on the round coil of the spring of the safety-pin like a ring, and still allow the pin to close on being forced downward.

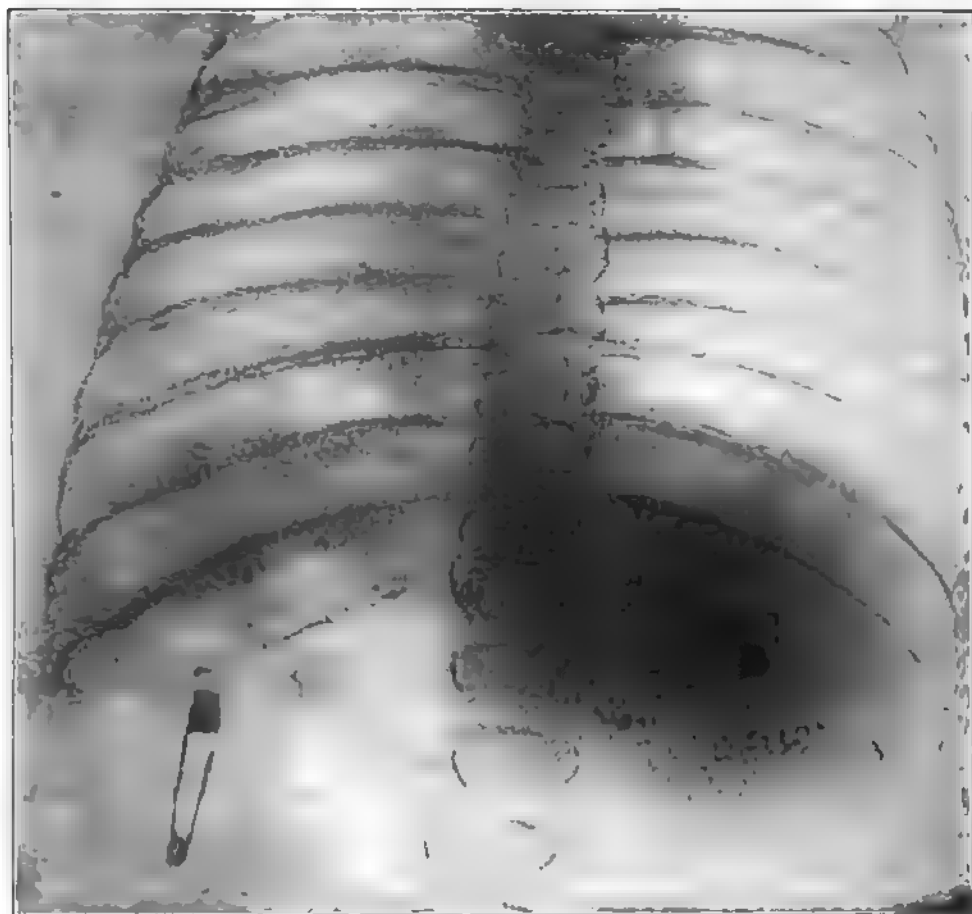


FIG. 2. SAFETY PIN IN STOMACH AFTER BEING PUSHED THROUGH

8:30 a. m., the pin was passed, point downward, in a lump of fecal matter.

In selecting the best instrument for carrying out the idea of pushing the pin down into the stomach, I was careful to select something that would return if the end got below the pin, something that would not catch on the pin and fail to be dislodged, also something that

The spread of the pin formed one set of retaining lines formed from the stretched oesophagus, the brass sides of the pin, it was thought, would also steer the hollow end of the bougie down upon the coil of the pin, just as if a hopper were formed.

The larger bougie swept the oesophagus clean.

## Light—Its Therapeutic Importance in Tuberculosis as Founded Upon Scientific Researches.

By J. MOUNT BLEYER, M. D., F. R. A., M. S., LL. D., New York City.

Chairman on Light and Electricity. American Congress on Tuberculosis, held at  
St. Louis, October, 1904.

(Continued from the January Number.)

### HOW THE INFLUENCE OF THE SUN'S RAYS ACTS UPON THE VITAL ORGANIZATION.

The surface of our earth is rendered beautiful by the almost countless forms of vegetable life which adorn it, and on the bare surface of the wind-beaten rock the mysterious lichen finds a sufficient amount of those elements which assimilate and form its structure, to support it through all the stages of its growth; and at length, having lived its season, it perishes, and in its decay forms a soil for plants which stand a little higher in the scale of vegetable life. These again have their periods of growth, of maturity and of dissolution, and, by their disintegration, form a soil for others which pass through the same changes until at length the once naked rock is covered with a garden and the flowering shrub and the enduring tree wave in loveliness above it.

In a short time, we find the almost microscopic seed placed in a few grains of earth, springing into life, developing its branches, unfolding its leaves and producing flowers and fruit. Although it has become a stately plant, we shall not discover much diminution of the soil from which it grew, and from which its structure is composed. Experi-

ments have been made in the most satisfactory manner, and it has been proved that a very small amount only, of the soluble constituents of a soil are taken up by the roots of a plant. We have to look to other sources for the origin of the woody matter, of the acid and saccharin juices, of the gums and of the resins, yielded by the vegetable world. These are all, it will be found, formed by some mysterious modifications of a few elementary bodies. The plant in virtue of its vitality and under the excitement of the sun's rays, effects the assimilation of these elements; and these are the phenomena which it is our business to examine thoroughly if we are going to apply photo-therapeutics.

The conditions necessary to germination are moisture, a moderate temperature and the presence of oxygen gas. The experiments of Ray, Boyle, Scheele, and Humboldt all show that the presence of atmospheric air is necessary. Germination cannot take place at the freezing point of water, and at 212° all vitality is destroyed. If seeds are kept quite dry, they will not germinate, although the other conditions are fulfilled. All seeds do not germinate at the same seasons, some requiring a more elevated temperature than others,

which fact explains the cause of the different periods at which we find the plants springing from the soil.

It has been remarked that Michelloti proved light to be injurious to germination, and Gugenhaus and Sennebier found that seeds germinate more rapidly even beneath the soil in the shade than in sunshine. This fact has been now established beyond all doubt.

Priestley's experiments<sup>1</sup> on the influence of growing plants upon the air are most instructive; and since they are not generally known, it is thought advisable to give an abstract of them in this space. "Without light," says Priestley, "it is well known that no plant can thrive and if it do grow at all in the dark, it is always white, and is, in all other respects, in a weak and sickly state. Healthy plants are probably in a state similar to sleep in the absence of *light*, and do not resume their proper functions but by the influence of light and especially the action of the rays of the sun."

Again, arguing that the green matter which forms in water grows and gives off gas, by the influence of light alone, Priestley gives the following experiment: "Having a large trough of water, full of recent green matters giving air very copiously, so that all the surface of it was covered with froth, and jars filled with it, and inverted, collected great quantities of it; and very fast. I filled a jar with it, and inverting in a basin the same; I placed it in a dark room. From that instant no more air was yielded by it, and in a few

days it had a very offensive smell, the green vegetable matter with which it abounded being then all dead and putrid." Dr. Priestley then instituted a series of experiments to prove that the *green matter* and not the water, produces the air. Rumford imagined that any porous body, as cotton, wool, silk, and even threads of glass would separate air from the water. Priestley's experiments were singularly conclusive on this point.

Priestley continued his experiments with the higher order of plants: "Having by this means fully satisfied myself that the pure air I had procured was not from the water, but from the green vegetating substance assisted by light, I concluded that then aquatic plants must have the same effect; and going to a piece of stagnant water, the bottom of which was covered with such plants, I took five or six different kinds promiscuously. Then, having put them into separate jars of the water in which they were growing and inverted them in basins of the same, I placed them in the sun, and *I found that all of them without exception* were immediately covered with bubbles of air, which gradually detaching themselves from the leaves and stalks where they had originated, rose to the surface of the water; and this air, on being examined, appeared to be in all the cases very pure, though not quite so pure as that which was before procured from the green water."

It must be remembered that carbonic acid was unknown to Priestly and

1. Experiments and Observations Relating to Various Branches of Natural Philosophy with a Continuation of the Observation on Air. By Joseph Priestley, LL. D., F. R. S., Birmingham, 1781, Vol. ii.

those who labored in the same field with him. Dr. Jugenhouz<sup>1</sup>, for example, says: "The air obtained from the leaves is by no means air from the water, but air continuing to be produced by a *special operation carried on in a living leaf* exposed to the daylight, and forming bubbles, because the surrounding water prevents this air from being diffused through the atmosphere. \* \* \*

"It is wonderful that this green matter seems never to be exhausted of yielding dephlogisticated air, though it has no free communication with the common atmosphere, from which the most part of other plants seem to derive their stock of air. Does this vegetable matter imbibe this air from the water, and change it into dephlogisticated air?" This does not seem to be probable. I should rather incline to believe that the wonderful power of nature, of changing one substance into another, and of promoting perpetually the transmutation of substances, which we may observe everywhere, is carried on in this green vegetable matter, in a more ample and conspicuous way.

Dr. Priestley, with his usual ingenuity, very soon determined that the plants separated some gas from the water, which they decomposed, and that, after a time, they ceased to give out air in water. He says: "I put a handful of these water plants, without distinguishing their kinds, into a receiver containing eighty ounce measures of water, inverted in a basin of the same; and when they had yielded between six and seven ounce measures of air, I examined

it, and found that, with two equal quantities of nitrous air, the measures of the rest were 0.8. *But the air had been diminishing about three days*, so that I believe there had been eight ounces measured in all, or one-tenth the capacity of the jar, and certainly purer than it was now found to be.

"It was evident, therefore, that *no more air would have been produced by these plants in water*, though placed in the sun. \* \* \* It is also a proof that the proper origin of all air produced in these circumstances is not the plant and the light, and that these are only agents to produce that effect on something else; that, in all cases, the quantity of air produced bears a certain general proportion to the capacity of the vessel in which the process is made." Again, "I have found a slower and a less produce of air from rain water than from pump water; owing, I suppose, to the rain water containing less air to operate upon, and generally also in a purer state, than that which is contained in pump water." We now know that the latter contains more carbonic acid than the former.

These experiments were continued by Priestley with cabbage leaves, lettuce, the sponge, cucumber, potatoes, white lilies, and many other kinds of plants, in all of them proving the decomposition of fixed air (carbonic acid) by the living vegetable matter in the water and the influence of light. We find philosophers, both here and abroad, repeating Dr. Priestley's experiments, and gradually arriving at a correct interpretation of the observed phenomena. Cav-

1. Jugenhouz, Experiments on Vegetables.

endish, in his experiments on air, wanders round the truth, but is continually drawn away from it by the hypothesis of phlogiston. Sennebier found that plants yielded more dephlogisticated air (oxygen) in distilled water impregnated with fixed air, than in plain distilled water. On this, Cavendish says: "For a fixed air is a principal constituent part of vegetable substances, it is reasonable to suppose that the wood of vegetation will grow better in water

containing this substance than in other water."

M. Monge, in his memoir, *Sur le Resultat de l'Inflammable et de l'air Dephlogistique dans des Vaisseaux Clos*, also examines this question. About this time the complete explanation afforded by Lavoiser's annihilation of the phlogistic hypothesis lead to correct explanations of the facts; and we advance more steadily in our inquiries.

(TO BE CONTINUED.)

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## A Cause of Frequent Urination.

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By ORVILLE M. CLAY, M. D., Montrose, Colo.

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One of the most frequently encountered causes of frequent urination, and one that is very apt to be overlooked by the general practitioner, is neuralgia of the prostatic urethra.

We have a patient coming to us who complains of a frequent desire to urinate. If the patient be a young man who has smoked, used liquor, or worshiped at the shrine of Venus to excess, then we may almost always make an infallible diagnosis of neuralgia of the prostatic urethra.

The symptoms are a frequent and urgent desire to empty the bladder. In bad cases this may occur as often as every hour. The circulation may be poor, the patient complaining of chilly

sensations, there may be a history of pollutions, and perhaps a hypochondriacal tendency. His condition unsuits him to attend to social duties and the patient becomes very morose. On cold or cloudy days the desire to urinate becomes more frequent.

The treatment consists in the use of the cold sound with instillations of a 1-1500 silver nitrate solution, this to be gradually increased to 1-500 in strength. It is not necessary to use a very large sound, the object being not to stretch the urethra but to overcome the hypersensitive condition. The prompt relief and the gratitude of the patient are both appreciated by the physician.

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In a letter to the Boston Herald of January 9th, Dr. William Councilman states that during 1904 more than 1227

deaths had occurred in that city from tuberculosis, and 2100 cases had been reported to the Board of Health.

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**SELECTED ARTICLE.**

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**On the Healing of Tuberculosis—Clinical Features.\***

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By HERBERT MAXON KING, M. D., Liberty, N. Y.

Physician to the Loomis Sanitarium.

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The work of Neageli, Franz, and others, showing the apparent almost universal diffusion of tuberculosis, at least among the residents of more thickly populated communities, has necessarily somewhat modified our views with regard not only to the distribution and curability of the disease, but to its etiology and history, and especially to the clinical features characterizing its outset, progress, and decline.

It seems to be a reasonable and certainly a growing conviction that practically all who reach 20 or 30 years of age have become infected and harbor in some obscure corner of the organism latent tuberculosis foci lacking only suitable conditions to spring into activity. That tubercle bacilli effect anatomical changes sufficient to be recognized post-mortem would imply that at some time subsequent to the infection there must certainly have been an active lesion, however minute and whether or not clinically demonstrable. Thus, in a sense, practically every apparently healthy adult is, after all, but an arrested case of tuberculosis. It seems probable that if our knowledge of the etiology and early history of the develop-

ment of the disease were more accurate, or, in other words, if we were able to differentiate decisively early and obscure foci of tubercle from a hundred other causes of slight departures from the normal, we should find at some time in the early life of nearly every individual that clinical evidence which would support the startling and almost sensational announcements from the autopsy chamber.

It is inconceivable that tubercle formation can progress to a point histologically recognizable without, to some extent, disturbing metabolism at least temporarily. Undoubtedly there is always an attending symptomatology, which, so far, we have failed to identify from clinical indications of other and comparatively insignificant disturbances. I cannot doubt, however, that tubercle formation, however remote from vital organs and however circumscribed in area, must give rise to distinctive clinical features, which an improved technique in diagnosis and, what is of greater importance, a more comprehensive knowledge of the disease shall enable the clinician to recognize.

If, then, we accept the conclusions which seem unavoidable from such ex-

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\*Read at a meeting of the Loomis Society for the Study of Tuberculosis, John Hopkins Hospital, Baltimore. From the Medical Record, January 7, 1905.

perience as that of Naegeli, which we may do, at least tentatively and for the sake of argument, remembering always Adami's invaluable protest against accepting half-truths for whole truths, the old question once more arises why, if all are subjected to the infection, does the vast majority escape and only a comparatively small portion develop a recognizable tuberculosis lesion? Here we are almost forced to take refuge in what we might term Dr. Osler's parable: "The seed falls on stony ground," and the reason why tubercle does not go on to clinically recognizable lesions in those who escape lies in the unsuitability of the soil. But was the soil unsuitable *before* infection? Apparently not, for we find at the post-mortem even in these individuals unmistakable evidence of past or present lesions which seem to prove, in just so far as they have progressed, the degree of inhibitive immunity which the individual had acquired by the vaccination process of tubercle formation.

Both clinical and pathological experience indicate that there is a tendency to prompt reactionary phenomena on the part of the infected organism—that there is a tendency from the beginning toward limitation and healing of the tuberculous focus. It would, however, appear as hardly probable in the light of present views on immunity, that there is at birth an appreciable difference in susceptibility between individuals, unless we accept the theory of inherited predisposition or inherited immunity as the case might be. This seems true, at least so far as tuberculosis is concerned, since practically all

carry the lesion or its scar as an evidence of original susceptibility. Those who have never given recognizable clinical evidence, therefore, are the fortunate ones whose physical condition at the time of the infection was such as to permit of the most immediate and sufficient production of antibodies in the blood and protective tissue changes at the seat of the lesion. In the unfortunate minority it is fair to suppose that either an increased quantity or virulence of the infecting virus or a lowered vitality (acquired) on the part of the infected organism is responsible for the appearance of distinctive clinical features of tuberculosis.

This, I am aware, is a digression, but as the clinical features of a healing lesion are chiefly concerned in the remission and disappearance of the symptoms which attended the development of the disease, and as these symptoms can so frequently be traced far back of an interval of comparative health to a period remote from the date of supposed onset of the disease, it seems desirable that we should make an effort to discover, if there be not clinical features attending tubercle formation in that class of individuals not recognized as tuberculous, and analyze these features, if they are found to exist.

With this end in view a painstaking and exhaustive inquiry into the past history of a tuberculous invalid is often full of surprises. One feature, for instance, recurs with such persistent frequency that it merits some attention; this is the striking difference in time between the first presumptive evidence

of disease and the first demonstrable evidence, which is often a period of many years marked by apparently perfect health, so that on the onset of the recrudescence the original outbreak has been forgotten by the patient or regarded as having no relation to present health. During this interval the patient is supposed neither to have nor to have had tuberculosis, yet the subsequent development of demonstrable evidence justifies the presumption that a potential disease focus existed from the start, and was during the healthy interval merely in a state of arrest. Thus, it not infrequently happens that a history of the present attack and a physical examination of the chest justify a diagnosis of incipient tuberculosis, whereas a further inquiry into the past history shows the case to be one of recrudescence of a healed or arrested lesion.

More often than is supposed the real incipency of the disease is marked by sharp constitutional disturbance. Indeed, from clinical experience one might reasonably conjecture that such a reaction on the part of the organism were essential to the healing of the focus and the production of an immunity and to look with serious suspicion upon the supposedly ideal incipient case, where physical signs in the chest are very slight and constitutional disturbance *nil*, yet with scattered bacilli in the sputa.

Will you pardon an illustration in point? A few weeks ago a patient was admitted to the sanatorium who presented the appearance of as perfect a specimen of robust health and muscular

development as can well be imagined. Three weeks prior he had consulted his physician because of chills and fever following violent exertion. Slight apical lesions with very little activity were discovered. The patient casually remarked that he had never been really sick, and weighed more than ever before in his life. There were a few bacilli demonstrable in the very scant expectoration. Appearances certainly seemed to point to this case as incipient, or at least as of very recent origin, and yet the very fact of the absences of constitutional symptoms, showing no little degree of immunity on the part of the patient, suggested a longer duration of disease than was otherwise indicated. The following history, which it seems to me is very instructive, was elicited:

The patient was the first child of healthy parents, who are still living. He was said to be a sickly child. Had measles, mumps, pertussis, and chickenpox before 11 years of age, when he was taken abroad and placed in a boarding school in Vevey, Switzerland. There outdoor athletic sports formed a part of the curriculum. His health and strength greatly improved, and at 14 years he was brought home and placed in a boarding school near Boston, where he continued outdoor exercise (football and later rowing). "German measles," with subsequent catarrhal affection of the throat, occurred at this time. At 18 years he weighed 150 pounds. In 1896, at 19 years, he entered upon his university course at Harvard, weighing 168 pounds. He went in enthusiastically for football and rowing, and was evidently overtrained dur-



ing his freshman year, losing considerable weight. Appetite and digestion failed, and he was treated for "stomach trouble". During the summer vacation he recovered weight and general health.

The following three years of his university life were not marked by sickness, although he always complained of digestive disturbances during the periods of hard physical training, and remembers having more or less constant cough at such times. After graduation, in 1900, he spent a year in a manufacturing business, which admitted to a great extent of an outdoor life. In 1901 he entered a banking house, and was much more confined. He still spent his leisure hours in the pursuance of outdoor sports, especially rowing. Within a few months, however, he noticed a recurrence of the hacking cough, which now was attended with expectoration, but, as his general health and weight were unaffected, he paid no attention to the symptoms.

In July, 1904, an unusual exertion (rowing in a scull race) was followed by a severe chill, and probably fever, although he saw no physician and continued his exercise. In September he noticed chill and fever, the latter reaching 102° F. on one occasion, after very violent exertion. Finally, toward the last of September, he sought medical opinion, and was found to have tuberculosis.

There are many interesting questions suggested by such a clinical history, and some which I think, are not irrelevant to our present purpose. We have here a patient to outward appearance in robust health, yet with indubitable evidence of pulmonary tuberculosis.

The present entire absence of constitutional symptoms, together with a history of very suspicious, though vague, attacks, recurring at intervals since 1896, a period of eight years, seem to indicate that the disease is not of recent origin. If we were to accept v. Behring's conclusions, it would require no great stretch of imagination to trace the original infection to the sickly period of his infancy or early youth. But, without going so far, we may safely place the first presumptive evidence of disease at least three or four years prior to the examination. During this time we have a record of a more or less constant struggle between the bacillus and the organism. Injudicious physical overtraining, and possibly temporary interference with nutrition as a consequence or concomitant, have invariably been attended with or followed by the reappearance of certain symptoms. These, however, do not assume definite meaning until the patient gives up in part his life in the open for one of office confinement.

Ever since the infection occurred then, whenever this may have been, there have been repeated, partially successful, attempts on the part of the resisting forces of the organism to eradicate the disease. There have been periods of apparently perfect health, when unquestionably the disease was under complete arrest, only to reappear, however, when the defense was, as it were, weakened for the moment by excessive expenditure of energy and interference with nutrition, requiring of the body cells, so to speak, increased work on decreased rations.

The history of this one patient pre-

sents numerous instances of "recovery" from tuberculosis, for I think we may so regard each rebound after the severe attacks. Furthermore—and I would not have you think me pessimistic if I express the opinion—these recoveries were perhaps as complete as are ever achieved in tuberculosis. It is, of course, impossible of demonstration, but fair to suppose, that if this patient had been made aware of the nature of his disease and had intelligently governed his future actions and environment accordingly, let us say at the time of his first supposed overtraining in 1896-97, there would not have been a recrudescence and he would have been well today, *i. e.*, he would have presented no demonstrable evidence of disease.

Will you forgive me if I cite one more case bearing on this point? In this instance unusual facilities obtained for getting accurately at dates and facts and the history has a proportionately greater value. The patient was the first child of healthy parents, still living, born at full term, weighing five pounds, was breastfed, and grew rapidly. He was perfectly healthy until taken from the breast at one year of age. From this time until after dentition he was subject to digestive disorders; he had "gastritis" at three years of age. After dentition he became healthy and strong. Had measles at seven years, chicken pox and mumps a short time after. He remained well thereafter until 1900, when he had "jaundice". He was then 21 years old and in college at Harvard. This attack, which was attended with fever, confined him to bed for three weeks.

Convalescence was slow, but apparently complete.

Graduating in 1901, he left Boston in June, and spent four months prospecting for ore north of Lake Superior. The party at first consisted of an instructor and three students, a cook, and a canoeman. One of the students had a cough and expectoration. All slept side by side in a tent. In August the patient left this party to make up another of his own, consisting of himself and three Indian halfbreeds. They proceeded north nearly to Hudson Bay. As in the former case the party occupied a single tent and slept side by side. The youngest half-breed coughed and expectorated, and was said to have consumption (much of the preparation of the food was left to this man).

The actual physical labor involved in this expedition was severe. The marches were long and toilsome, and the patient frequently carried on his shoulders more than his own weight over long "carries". He returned to Boston in October apparently in robust health. A few days afterward, however, he developed an acute pleuritis with effusion, and was in bed for three weeks. The lung was said not to have been affected. Recovery was apparently complete, and before January, 1902, he was in better health and weighed more than ever before in his life. In July following he went to Pueblo, Colorado (altitude 5,000 feet), as chemist for a mining company, still apparently in perfect health. He was now closely confined to the laboratory and much exposed to the fumes of chlorine, bromine, and sulphuric acid. Three weeks

later he was transferred to a mine in Mexico, where the altitude was somewhat greater; here he reports "catching cold," and cough, expectoration, and slight haemoptysis followed; but, although the cough and expectoration continued, he did not seriously regard them until April, 1904, when he was transferred to Leadville (altitude 10,500 feet). Here the symptoms increased, and finally compelled his return to Boston in October. It is, of course, unnecessary to say that extensive structural changes were plainly evident in the lungs at this time; that and subsequent events in this case do not for the present concern us. The interesting points, it seems to me, are (a) the source and date of the infection; (b) the earliest clinical manifestations of the disease; (c) the phenomena attending the first prompt and apparently complete arrest of the disease, and the causative factors of recrudescence.

(a) As to the source and date of the infection, if one wished to support a theory and that theory happened to be *v. Behring's*, there would be a temptation to take as sufficient evidence of infection the digestive disturbance and "gastritis" which occurred during the cow's milk period coincident with dentition, but I think for present purposes we may pass over that incident, as well as the attack of jaundice during his college life, and with propriety consider the patient to have been healthy and without tuberculous infection when he left Boston for the camp life and hard, manual labor of his prospecting enterprise in the Northwest. Here, at

least, we have a very plausible history of exposure to infection from close contact with two probable, coughing consumptives extending over a period of several months. Incidentally, it is interesting and somewhat surprising to discover that infection may occur even while one is living day and night in the open air in the wilderness and in an ideal climate if individual conditions otherwise favor it.

In the absence, then, of evidence to the contrary, it is fair to concede that in this case infection occurred during a prolonged, intimate contact with one or two presumably careless consumptives, and that a tuberculous lesion became manifest immediately at the close of this period of exposure.

(b) The earliest clinical manifestation of disease then was undoubtedly the attack of pleuritis with effusion, notwithstanding opinions to the contrary at the time of the attack and immediately afterward. And this brings us to the point of chief interest to the present discussion.

(c) The phenomena attending the first arrest of the disease. The attack was sudden and sharp—in fact, a typical, tuberculous pleuritis, and there followed the usual prompt and complete convalescence which so frequently lulls suspicion and encourages relaxation of after vigilance; indeed, even when recognized as tuberculous, this form of onset, by pleuritis with effusion, has, I think, come to be regarded clinically as most promising in prognosis. There seems to follow these sharp pleuritic invasions a more rapid and vigorous immunizing process in the organism, and

I should say, though I cannot at the moment substantiate my opinion, that there are fewer relapses among patients of this class than is the case where the onset is characterized by intrapulmonary changes. After the absorption of the fluid, physical signs in the chest disappeared, together with all other symptoms; the return to normal was so complete in fact that every assurance was given to the patient and family that the attack was not tuberculous, but, with the knowledge of its true nature, which subsequent events made possible, one can see in this convalescence all of the clinical features, in miniature, as it were, which characterize the healing of tuberculosis; this arrest of the disease, moreover, was perhaps, as I ventured to say with regard to the other case, as complete as is ever possible in this disease.

The chief causative factor in the recrudescence which occurred in this case was obviously the exposure to unhygienic habits and environment, and there is no sufficient reason to believe that such recrudescence would not have followed similar exposure, even if suitable precaution on the part of the patient had prolonged the interval of arrest to five years, *i. e.*, the period generally conceded as justifying the term cured.

It is rather curious, I think, and worthy of note, that in this case the infection took place while the patient was living in the open air and under fairly ideal climatological conditions, that arrest of the disease, followed by subsequent periods of apparent perfect health, occurred in a climate supposed-

ly very conducive to the development of tuberculosis, and finally that recrudescence occurred in a climate and at an altitude world-famed for its curative virtues in this disease. Of course, there is a sufficient explanation in each instance, but it all goes to prove that care is a more important element than climate in effecting the development, as well as the cure, of tuberculosis.

Before turning from a subject, which, though necessarily interesting, is, I fear, an unpardonable digression, I wish again to call attention to the frequency with which it is possible to trace in the history of a tuberculous patient a first presumptive evidence of disease, followed by a more or less extended interval of apparent health before arriving at the demonstrable onset, which, in the light of the history, must be considered a recrudescence. Thus, in the last thirteen cases discharged "apparently cured" or "arrested" from the sanatorium, whose physical condition upon admission (irrespective of the history) justified a classification as "early with mild symptoms", *i. e.*, incipient, the average time elapsing since the first presumable evidence of disease was found to be one year and ten months, with a maximum of six years and a minimum of four months. On the other hand, the early acute cases seldom give a history of more than a few months from the first presumptive evidence.

This seems to lend support to the view that the first development of tuberculosis is characterized by more constitutional disturbance than is generally imagined. It is probable that a

very large proportion of the "grippes", "malarias", "typhoid fevers", etc., which find their way into our history charts represent in reality the acute constitutional manifestations of the early stages of the disease. Furthermore, it seems not unlikely that these early acute symptoms may be the result of definite reactions essential to the immunizing process in the organism.

To consider more especially the various clinical features of a healing tuberculous lesion, it is desirable to assume a more or less typical clinical picture of the disease—one which shall present well-marked physical signs in the chest and the classical symptom complex. Assuming that such a case be brought under conditions favoring recovery, and that convalescence supervenes, the first and most important clinical evidence of the onset of the disease, the fever, will also be the first and most important symptom to disappear. Arrest of activity in a tuberculous focus can never be said to have been accomplished until there has been an absolute return to normal of the temperature and a relative approach to normal of the pulse rate and arterial tension.

The disappearance of fever in such is a feature which suggests that a degree of immunity has been established without which the healing process cannot go on. With the subsidence of fever there follows an improvement in appetite and digestion, as a rule, and correspondingly an increase in weight. These features are especially marked in the convalescence which follows the

first outbreak of the disease, and remind one of similar phenomena which occur after typhoid. An improvement in the general health and vigor of the patient follows, and altogether the rebound frequently carries the patient into a much better physical condition to all appearances than was the case prior to the attack. Unless, indeed, the tuberculous nature of the attack has been demonstrated beyond a doubt, the prompt and apparently complete return to health is often liable to be interpreted as an evidence that the attack was non-tuberculous, and subsequent precautions against relapse neglected in consequence.

In the arrest which follows a first onset of the disease physical signs in the chest disappear with comparative celerity, together with the fever and disturbances of nutrition. With the cause thus removed, cough and, if there be any, expectoration cease, and there is left in a surprisingly short time scarcely a demonstrable evidence of any departure from normal. With every subsequent recrudescence, however, as would naturally be expected, structural changes in the lung become more extensive, and the reparative process is correspondingly retarded. The fever may subside almost or quite as promptly as before, and the weight, if decreased, may be regained, while cough and expectoration and physical signs in the chest persist with a tenacity often discouraging to both patient and physician. Finally, when several relapses have occurred, or when healing has been for any reason much delayed in the case of a first outbreak, organic

changes become permanent, and certain physical signs, which may be said to be indicative of a healed lesion, remain never wholly to disappear.

In the acute stage of the onset or recrudescence of a tuberculous lesion, as in most other toxaemias or septic infections of an acute nature, there appear abnormalities in the urine, both in chemical reaction and in the character of the formed elements; although unfortunately these are not sufficiently distinctive with our present knowledge to be pathognomonic. They consist chiefly in a more or less transient and intermittent albuminuria and the presence of hyaline casts and cylindroids, together with epithelium, leucocytes, and not infrequently red corpuscles in the sediment. Apparently these signs do not signify more than a temporary renal congestion, since they readily disappear early in the healing process. Even a transitory diazo-reaction may be present during the first acute onset without unfavorable prognostic significance.

Dr. Neagle, of my staff, has recently summarized and tabulated from the sanatorium records the clinical features of fifty discharged cases. He has divided these into groups, according to condition on admission, as follows:

(a) Fourteen early cases, with slight pulmonary involvement.

(b) Twenty-five cases presenting moderate constitutional disturbances, but more or less extensive pulmonary involvement, and an average presumable duration of disease of five years, including intervals of arrest.

(c) Eleven cases with acute or

otherwise unfavorable manifestations, either local or constitutional, and with a presumable average duration of disease of two years and two months.

Some of the results of his investigation have an interest in the present discussion. In group a, for instance, he found that upon admission, or at some time during sanatorium residence, there was present diazo-reaction in two patients, both of whom were discharged "arrested", and are still apparently well.

In Group b, diazo-reaction was positive sometime during observation in four patients, one of whom died, and three were improved and are still living, the reaction disappearing before discharge.

In Group c (the unfortunate class), on the other hand, diazo-reaction was positive in seven patients, five of whom died in residence, and the other two were discharged unimproved, and are probably now dead.

It would seem that the generally accepted prognostic significance of a diazo-reaction in tuberculosis has application chiefly, if not solely, to the last stages of the disease, and when temporarily present in the early acute manifestations, or in acute exacerbations of chronic lesions, need not necessarily indicate an unfavorable termination. It is necessary to add that its disappearance, if present, would be one of the first clinical evidences of improvement.

It seems probable that the work which has been, and is being done, on the blood will in the end throw valuable and, perhaps, unexpected light upon

some of the most obscure clinical problems of to-day, and especially, I think, is this line of research promising in tuberculosis. If we are ever to be able to recognize the presence of tubercle during the period of arrest following first and unrecognized onset, it would seem to me that we are most likely to do so through discovery of definite reactions in the blood serum of the infected. Already much preliminary work has been accomplished, and, although it is not as yet of practical clinical value, there is no reason to believe that it will not become so. The great expectations from this line of research, which the results already accomplished certainly justify, should be sufficient to secure more than the necessary moral and financial support to such invaluable institutions of research as the Saranac Lake Laboratory. The discovery of a means of diagnosis, more accurate, if not more safe, than is tuberculin in suspected persons who are supposedly non-tuberculous, would be as great a boom to humanity as that of a curative serum.

From the crude and more superficial methods of blood study now practically available to the clinician not much of importance is to be learned. As a rule, in the healing process there is a moderate anaemia and a slightly more pronounced chlorosis to be overcome, and the reparative process in the blood follows closely the reduction of fever and improvement in nutrition. In early and uncomplicated lesions without softening, there is, of course, no leucocytosis, but much earlier in the disease than is, I think, generally imagined there appears an increase in the

white cells. This is not necessarily much, if any, above the limit which normal blood may reach occasionally during the day, but it is constant until arrest of activity is achieved.

In twenty-five cases discharged from the sanatorium, apparently cured or with disease arrested, and who represented upon admission various stages of the disease, with a mean duration since the presumable onset of two years, three and one-half months, observations on the blood were recorded showing the following averages:

	Erythro- cytes	Leuco- cytes	Haemo- globin	Color Index
On admission.....	4,890,000	10,760	86 p.c.	.879
On discharge.....	4,960,000	9,860	92 p.c.	.929

In these cases there was an average gain in weight while under observation of 14 pounds 8 ounces. In every case reaching to or passing the previous greatest known weight there was a return to normal of temperature and pulse, but cough, expectoration, and bacilli were present upon discharge in some of them. In Dr. Naegle's Group a the averages were somewhat more characteristic. It will be remembered that this group was made up of fourteen early cases with slight local and constitutional disturbance (these cases were not all, of course, successfully arrested). The following table shows comparison of the average blood values upon admission and discharge:

	Erythro- cytes	Leuco- cytes	Haemo- globin	Color Index
On admission.....	4,960,000	9,860	87 p.c.	.878
On discharge.....	5,060,000	8,810	98 p.c.	.92

It must be borne in mind that these examinations were made at an altitude of something over 2,000 feet, which

explains the rather high counts of both red and white cells, as compared with what is usually observed at sea level in similar cases.

It appears unnecessary to dwell longer upon clinical details which are familiar to every one who has had an opportunity of observing the progress of a healing tuberculous lesion. In a subject which has been so voluminously treated it is very difficult to offer suggestions for further clinical study which can have the least merit of novelty. Nevertheless, I venture to emphasize, in conclusion, one or two features which it seems to me are at least worthy of investigations. Let me state them as propositions:

(1) It is probable that the initial lesion following a tuberculous infection is often obscure in its clinical

manifestations and frequently escapes identification.

(2) There is nearly always a prompt and very often successful tendency on the part of the organism to a more or less complete repair followed by an interval of apparent health.

(3) Following this interval, which may extend into a period of years, there is a strong tendency to relapse.

(4) What is in reality a recrudescence of an arrested lesion is very frequently mistaken for an initial onset.

(5) Whatever may be the facts in an individual case, the safest and most practical policy lies in regarding every apparent recovery from tuberculosis as merely an arrest of the disease, brought about by an acquired immunity which suitable conditions are very prone to destroy.

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The Illinois State Association for the Prevention of Tuberculosis has been organized with the following officers: Honorary president, governor of the state; president, Edw. J. James, president of the University of Illinois; treasurer, James Eckels; secretary, Dr. Arnold C. Klebs; legal adviser, Charles H. Hamill; executive committee, Dr. E. Picknell, Dr. Quine, Dr. J. Pettit, Dr. George W. Webster, Sherman C. Kingsley; central committee, Dr. William E. Quine, Dr. Frank Billings, Dr. N. S. Davis, Dr. C. B. Picknell, Dr. Joseph E. Milligan, Dr. N. B. Delamater, Dr. N. H. Graves, Dr. George W. Webster, Dr. R. A. Evans and Dr. Robert Babcock. The association was organized through the initiation of the Visiting Nurses' Association. The

dues are \$1.00 per year. The two specific purposes are to secure the appropriation of \$150,000 by the legislature for building a state sanitarium, and to secure the passage of a law compelling the registration of all tuberculosis patients in the state.

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A bill drawn up by Dr. R. N. Wilson to be introduced into the Pennsylvania legislature, provided for the appropriation of \$500,000 for the establishment of anti-tuberculosis camps, hospitals and dispensaries in the State Forestry Reservation in Pike county. The bill provides for not less than 500 acres to accommodate not less than 500 patients. The minimum duration of treatment for each patient is to be three months.



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## EDITORIALS.

### DEFECTS OF EPIGRAMMATIC WRITING.

Epigrammatic writing is very seductive.

It is easily read. It seems to express in such striking manner the thought intended to be conveyed that the reader recognizes that thought as his own; therefore, it appeals to the reader.

Because it appeals to the reader it likewise is attractive to the writer who is at all capable of employing that style.

The very popularity, however, and the very terseness of style brings with

it an inherent defect, which we are apt to overlook.

Its legitimate field is necessarily limited. Not every subject is adapted to it, and least of all scientific subjects. The shortness of sentences and the disconnection of thought inseparable from it make it a medium in which the truth is often necessarily sacrificed to style, indeed, is often wilfully sacrificed for the sake of style.

As an example let us take the opening sentences of an article on Acute Tuberculous Pneumonia by Osler in the *Brooklyn Medical Journal*, for Feb-

ruary. Osler's ability, both as a medical man and as an author, is so well recognized that it would seem like carping to take exception to a simple matter of style as we do. But this very ability renders more flagrant the fault. His first paragraph in this article begins: "You all know pulmonary tuberculosis. Many of you know it too well." And this apparently addressed to an assemblage of physicians, although the occasion of the address was not specified in the journal! And this, too, in the present day, when there is such a straining after knowledge concerning tuberculosis, when thousands of the most eminent members of the medical profession are lamenting the defects of their known knowledge, when many more thousands are far more deficient, and hundreds of thousands of people are dying from a preventable and curable disease because of ignorance!

We are acquainted with men eminent in the field of phthisiology; yet have we to see the first to bemoan his excessive knowledge. Possibly we do not know the names of those to whom Osler's mind refers, and we beg that they be made known so that the profession of not only America, but the whole civilized world may emblazon their names on tablets of gold, may pay due homage to their superior knowledge of this subject. Then, after such homage, will we rise in our might and smite them hip and thigh for their egregious selfishness in retaining to themselves the substance of their mighty omniscience.

## THE PHYSICIAN'S DUTY TO A PATIENT WITH A COLD.

The question of the early diagnosis of pulmonary tuberculosis still continues to occupy a prominent position in the field of medical literature, as is evidenced by the frequent articles appearing dealing with that subject. The necessity for the earliest possible diagnosis of the disease is intoned, the various aids to render this more easy and more certain are detailed, and attempts to place the responsibility of failures are not lacking.

It is not the case that the physician is principally responsible in by far the majority of instances. On account of the extremely insidious development of the disease, the patient fails to see the necessity for, or even the advisability of, seeking medical aid until late in its development. Not infrequently is the physician visited for relief from what seems to be a simple cold or a mild attack of bronchitis, and, if the physician suggests an examination, the patient is not convinced of its necessity and does not wish to incur the extra expense. Frequently he comes again and again for the same, as it seems to him, slight ailment, and gradually he loses faith in the physician because of failure to receive relief.

In many of these cases it is true that the physician is not without blame. Still, he can not insist upon an examination in such a case at the first visit. However, it is his duty both to his patient and to himself to explain the possibility of an affection more serious than suspected being concealed beneath

the apparently trifling disorder. He should explain that if prompt relief is not experienced from the medicament exhibited, the patient should without delay return prepared for a thorough

examination. In such a way only can he hope to educate the public to the watchful vigilance which will give them the best results in the prevention, the cure, and the elimination of tuberculosis.

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## PROGRESS OF MEDICINE.

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### Diseases of the Digestive Tract.

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*Conducted by A. E. Engzelius, M. D., Denver, Colorado.*

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#### RECURRENT VOMITING IN CHILDREN.

Snow (in the *American Journal of the Medical Sciences*, December, 1904) directs attention to cyclic, periodical, or recurrent vomiting of children, a condition which he believes is not as rare as is generally supposed. The symptoms are attributable to a gastric irritability due to an intermittent hyperchlorhydria, a secretory neurosis, causing sudden hypersecretion of free H.Cl. and gastric juice.

The subject, except for the attacks of vomiting occurring at irregular intervals, is in perfect health. The disease has been observed in early childhood, from the first to the sixth year. All of the author's cases were of the better class of society—"nervous, high-strung children of average physique." So far from any dietetic error being the cause of the condition, he noted that all of his cases had been fed with an excess of caution. Of twenty recorded cases twelve were girls. Prodromal symptoms are very slight, if

present at all, the vomiting attacks beginning suddenly, with no adequate cause, and ceasing abruptly after a duration of a few days, leaving the patient with an unimpaired appetite and digestion. A similar group of symptoms has long been recognized in adults, but the condition as occurring in children is far more dangerous and prolonged than in adults. The vomiting is followed by rapid emaciation, great cardiac weakness, and on rare occasions death.

The author states as his opinion that the cause of recurrent vomiting is still unknown, but that it is probably a transitory antointoxication. Some cases have been mistaken for meningitis, or the patient might give an impression of appendicitis or intussusception; but the absence of other symptoms characteristic of any of the mentioned conditions, analysis of the vomited matter, the rapid course of the malady and the recurrence of attacks will clear up the diagnosis. The au-

thor gives an interesting account of symptoms, treatment, and course of five of his personal cases. The treatment should be directed towards quieting the nervous irritability and sustaining the vital forces. Nutrient enemata, chloral by rectum, and hypodermics of morphine and strychnine will be indicated. The administration *per os* of bicarbonate of soda, sometimes in enormous doses, with a view to rendering neutral the acid hypersecretion of the stomach will at times be strikingly effective, but may again at other times entirely fail.

#### PRIMARY SARCOMA OF THE STOMACH.

Sipher (*American Medicine*, December 31, 1904), reports three cases of primary sarcoma of the stomach, and records five additional cases collected from the literature. These eight cases have all occurred in the last two years, and are reported with a view to completing the list of cases of "Primary Sarcoma of the Esophagus and Stomach" compiled and recorded by Dr. W. T. Howard, Jr., in the *Journal of the American Medical Association*, February 8, 1902. The addition of these cases to the list of sixty-one reported by Dr. Howard will give a total of sixty-nine cases recorded.

#### ORTHOFORM IN THE DIAGNOSIS OF GASTRIC ULCER.

Murdoch (*Medical News*, October 8, 1904), reports additional cases in which he has found orthoform of great value in differentiating gastric ulcer from other painful affections of the epigastrium. The usefulness of orthoform in establishing a correct diagnosis of gastric pain of uncertain origin rests upon the fact that the remedy will not anesthetize nerve endings when they are protected by skin or mucous membrane. If the administration of orthoform in these cases is followed by relief from pain, the conclusion is drawn that the pain so relieved must originate from a surface from which the mucous membrane has been removed. A dose of eight grains of orthoform will often within half an hour relieve a most intense pain caused by ulcer of the stomach. Of the three cases reported, appendicitis had been suspected in one; in the other the diagnosis had been biliary colic, and in the third case the diagnosis of gastritis had been made by two physicians. The correct diagnosis of gastric ulcer was established in each case by the administration of orthoform.

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### General Surgery.

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*Conducted by F. Gregory Connell, M. D., Salida, Colo.*

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#### NERVE BLOCKING TO PREVENT AMPUTATION SHOCK.

Hermann B. Gessner, in *American Medicine*, September 24, 1904, presents

the subject of "Nerve Blocking to Prevent Amputation Shock, with Illustrative Reports of Two Thigh Amputations."

One case was a tuberculosis of the knee, and the other a chondro-sarcoma of the upper end of the tibia.

In both cases amputation was done at about the middle of the thigh. In making the flaps, the great sciatic, and the internal saphenous nerves were identified, isolated, and oedematized with cocaine, in the first case a two per cent., and in the second a one per cent. The nerves were then divided through this oedematized region, and the amputation was in other respects as usual.

Both case recovered very satisfactorily with practically no shock, which result contrasted strongly with his last amputation at this site, which ended fatally through shock.

Gessner does not claim that these cases are sufficient to establish a principle, but presents them in corroboration of the previous work of Geo. W. Crile (Problems Relating to Surgical Operations), and Harvey Cushing (*Annals of Surgery*, September, 1904).

He also quotes the following from Cushing:

1. By common usage the term shock has come to represent a peculiar state of depression of the normal activities of the central nervous system. Such a condition is ordinarily brought about by traumatism of one sort or another to peripheral afferent nerves. In order to produce shock the impulse resulting from this traumatism must have acted reflexly upon the vaso-motor mechanism in the medulla in such a way as to occasion a marked fall in blood pressure. This diminution in arterial tension is the most characteristic symptom of shock.

2. Under ordinary circumstances injuries of only moderate severity to peripheral nerves cause a rise in blood pressure. If, on the other hand, these injuries are extensive or frequently repeated, or if they are complicated with certain primary or secondary anemias, they are commonly productive of a fall in blood pressure, indicating a state of shock. Consequently, shock need not be occasioned, even in the most extensive surgical procedures on the extremities, provided due regard is given perfect hemostasis. In operations of considerable magnitude, however, during which the division of many nerves becomes necessary, or in operating upon such traumatic cases as have been already complicated by extensive injuries to peripheral sensory nerves, so-called operative shock is rarely avoided. When, therefore, any condition is exsistant which predisposes to shock, such as loss of blood, prolonged anesthesia, etc., or when a certain degree of shock is already present before operation, a special risk is attendant upon the division of important sensory nerve trunks.

3. Cocaine injection into a trunk effectually blocks the transmission of all centripital or sensory impulses. Cocainization, therefore, of trunks of nerves central to the proposed site of their division in a major amputation prevents the conduction of these impulses resulting from the traumatic insult which otherwise, by acting reflexly through the medullary centers, might become the chief factors in the production of shock.

This sane method of preventing shock has been employed in amputa-

tions of the upper extremity by injection of the brachial plexus by Lund, Powers and others.

The above use of the cocaine injection is of course radically different from that in which the object is anesthesia of the distal parts.

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#### AMPUTATION OF THE LEG UNDER LOCAL ANESTHESIA.

A case of amputation of the leg after infiltration and regional anesthesia is reported by John H. Gibbon, in *The Philadelphia Medical Journal*, May 2, 1903. His case was a male 50 years of age, with an advanced tubercular disease of the ankle joint and the tarsus. Because of the patient's age, his general condition, and the extent of the disease, it was decided to amputate, and this under regional anesthesia.

Fifteen minutes before operation, he was given, by hypodermic injection, morphine, gr. 1/4, and atropine gr.

1/150. The sciatic and anterior crural nerves were exposed by infiltration anesthesia with Schleich's solution, and these nerves injected with a 1 per cent. cocaine solution (regional anesthesia). Distal anesthesia was not complete for about 8 minutes, but analgesia was perfect, as was shown by a painless incision into the joint.

Incision of the soft parts at the middle third of the leg did not cause any interruption or hesitation in the conversation of the patient, who was not aware that the amputation was in progress till he heard the sawing of the bone. Recovery was uneventful, and a recent examination revealed no late effects. The above method of producing anesthesia should be limited to cases in which general anesthesia is contra-indicated. The method must be studied carefully in many small operations before it should be employed in the more extensive ones.

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A bill has been introduced into the Colorado legislature by Senator B. L. Jefferson, M. D., for an amendment to the state constitution which will permit the regents of the State University to establish departments of medicine, dentistry, and pharmacy in Denver. A number of years ago the medical department of the State University was located in Denver, but as a result of a suit brought by the University of Denver it was compelled to be removed to Boulder. This location has never been satisfactory to the authorities of the State University.

It is reported that the Des Moines City Library has set apart a reading room for consumptives. In this room is provided recent literature relating to the prevention, treatment and cure of the disease. This step tends to secure the separation of consumptives from other frequenters of the library and also furnishes material for the education of those vitally interested in the disease, viz., its victims. It is to be hoped that the experiment may prove successful and the example set found advisable to be followed by other libraries.

## Ophthalmology and Otology.

*Conducted by Melville Black, M. D., Denver, Colo.*

### A FEW EXPERIMENTS IN CATARACT EXTRACTION.

Ernest E. Maddox, of Bournemouth, in the *Ophthalmoscope*, London, November, 1904, says:

"Through the contributions of many, the operation of cataract has reached a state of perfection, which, if only all eyes responded gratefully to it, would leave nothing to be desired."

"But thoroughly satisfactory as are the great majority of results in this country, the small percentage of exceptions, from which no operation is immune, not only causes disappointment to the few concerned, but often throws a needless shadow over the minds of others, sometimes enough even to deter suitable cases from receiving the benefits of extraction.

"The two principal causes of failure (granted skillful performance of the operation) are: (1) Deficient vitality or 'resisting power' of the tissues; (2) the impossibility of effecting absolute disinfection of the conjunctival sac, particularly in the presence of any affection of the tear passages. The two simple procedures which I am about to relate meet, in partial measure, both these difficulties. The first consists in a conjunctival suture, and the second in a persistent antiseptic dressing applied over the tear passages."

The author gives Williams of Boston the credit of having proposed the suture of the cornea in 1868, and mentions that many have since employed it in va-

rious ways. He believes the corneal suture is not without its dangers from the presence of a foreign body so close to the anterior chamber as to furnish an inviting path for micro-organisms. He proposes a *conjunctival* suture, a few millimeters from the cornea, which does not mutilate the flap nor endanger the eye in any way.

"The suture should be rendered absolutely aseptic, and not be allowed to touch the eyelashes, or the face. To do this is quite easy if the tail end of the suture be held up by the assistant with aseptic forceps."

The needles are about one-half the size of the smallest ophthalmic needles figured in Messrs. Weiss' catalogue. He has designed a special needle-holder that facilitates the handling of this small needle.

"In a few patients it is not wise to attempt any prolongation of the operation, but my rule now is to put in a conjunctival suture whenever it can be safely and conveniently done.

The author does not give any more of the technique of the suturing than above detailed. We infer that he must complete the section by bringing the knife out well in the conjunctiva, thus leaving a conjunctival flap at least 3 millimeters long. Also, that he introduces the suture at the summit of this flap.

The author believes the conjunctival suture presents the following advantages:

"1. *Speedier Union.* As is well known, union by first intention is favored in every part of the body by restful co-aptation of the lips of an incision. With the eye, this consideration has peculiar force, the eye being a restless organ in constant motion, as the reader can verify by placing his finger against the closed eyelids. As a further proof of these movements I have more than once seen, as others have also, iodoform, when sprinkled on the incision, work its way into the anterior chamber. It is no wonder, therefore, if other things less desirable than iodoform are sometimes worked in. We cannot, therefore, take the apparent quietude of the dressings after an operation for cataract as disproving the rotations of the globe going on beneath them. It is true that a conjunctival flap, even without a suture, becomes glued by exudation within a few hours. But in contrast with this, the conjunctival suture now proposed affords a central point of strong immobility from the very first, and the value of a few hours may be very great when the vitality of the flap is feeble.

"2. *Protection from infection.* The excellent results obtained, almost without exception, by suturing the conjunctiva over disinfected wounds of the sclera, afford frequent illustration of the safety of sub-conjunctival healing. It was indeed this consideration which confirmed me in the attempt to give cataract incisions a similar benefit.

"3. *Greater security from accident.* In the event of any sickness, sneezing, or coughing, the danger of damage is greatly reduced. Chloroform can be

given on the rare occasions that it is called for with far more confidence. Bronchitic complications need be dreaded less, while accidental blows and disturbances are not so likely to do harm.

"4. *Smaller prolapses.* Should prolapse of the iris occur after simple extraction, it is an immense advantage to know that it can take place only sub-conjunctivally, and its progress in the direction of the suture be limited thereby.

"5. *Greater freedom for the patient.* The irksome character of the present after-treatment of cataract can be greatly relaxed if a conjunctival suture be employed. The patient can be granted more freedom with equal safety, and, in case of stout, elderly people, relief from prolonged recumbency in bed is a great boon.

"6. *Fewer rejected cases.* It is not unreasonable to believe that some patients to whom operation has been judiciously declined hitherto on account of bronchitis, failing vitality, winter cough, or other contra-indication, could be tackled more boldly by the employment of two or three conjunctival sutures.

"7. *Open dressing facilitated.* The advantages of open dressing are well known. Under this *regime*, nature's own cleansing arrangements for the conjunctival sac are not interfered with, and the flow of tears across the eye from the openings of the lachrymal ducts to the inner canthus, guided by involuntary action of the muscles provided for the purpose, clears the neighborhood of the wound from particles of



mucus and other undesirable elements that might otherwise tarry too long. Any impediment to these natural and harmless movements of the lids must be prejudicial. Hitherto the chief advantage of open treatment has been the possibility of the upper lid rising so high, when the eye looks down, as to engage in the incision or to disarrange the flap, but if the flap be securely sutured this objection ceases. The ideal dressing after suture is, I believe, to leave both eyes entirely untouched, yet thoroughly protected by a wire gauze mask, covered by very fine black or green muslin, over the operated eye, and for the first day or two over the other eye also. The chief advantage of allowing the sound eye to perform acts of vision from the first, is that, while taking meals, the patient is certain to look strongly down. The traction of the inferior rectus on the eye that has been operated on then tends to open the incision at some part of it where union may be feeble, and thus delay healing. Should then, the sound eye be left uncovered from the first, strict instructions are necessary that meals be given with the eyes closed.

"Having set forth the advantages of, now let us consider the possible objections to conjunctival sutures.

"1. *Their aid is small*, and the flap is not fixed so firmly as by a corneal suture. This is true, but they are safe, and in so important an operation, even the smallest aid is not to be despised.

"2. *The danger of sepsis*. There is none if the suture be properly placed.

"3. *The operation is prolonged*. This objection must be duly respected

where restless eyelids betoken danger, but in the majority the prolongation is so slight as scarcely to be taken into account, and the objection only shows the advantage of making every effort to improve the technique of insertion so as to secure the utmost despatch.

"For these little extra pains, the operator is amply rewarded by the feeling of security evoked by the sight of the little black midge, a few millimeters from the cornea, securely holding its own, and guarding the flap from any displacement by the edge of the upper lid.

"4. *Astigmatic effect*. If put in carelessly, so as to tie up too much conjunctiva, the corneal flap may be unduly dragged on so as to create an increase of the astigmatism. But this deviation from the correct procedure is not in the least necessary.

"In each case the *pros* and *cons* need weighing. It is more than likely that conjunctival sutures have been used by others, without my knowledge, but not having met with a suggestion of them in any text-book, they evidently form no recognized part of present practice, and I think it may be useful to have thus expressed my views as to their value in suitable cases.

*Persistent Antisepsis After Extraction.*

"When the tear passages are healthy, although the conjunctival sac itself contains numerous micro-organisms, they are not generally of a very formidable character, and are doubtless in a large measure flushed away by the mild antiseptic lotions which are employed before and during the operation. It is, as we all know, not from the conjunc-

tival sac so much as from an imperfectly-drained lachrymal sac that the chief danger springs, the more so when the sac has for a long time been distended by a purulent secretion. Under these circumstances, however carefully the lachrymal sac may be washed out, the most warmth of the subsequent dressing only favors the multiplication of any cocci that may lurk in its walls. Having occasion to extract a cataract from a case of this kind, after careful treatment of the condition by free opening of the sac, the use of a lead style, and frequent syringing, it occurred to me to adopt a simple expedient for the maintenance of a gentle but continuous antiseptis. After closing the lids at the conclusion of the operation, the hollow between the eye and the root of the nose was filled up by a small teaspoonful of finely powdered boric acid. The usual dressings were laid over this. By the next morning the tears had melted the greater part of it away, showing that the lachrymal sac must have been perpetually bathed in the solution. It is not improbable also that the flow of tears (which in themselves are supposed to be bactericidal) was favored by the powder, by osmosis, in the same way that a boric acid suppository excites the flow of liquid in the gut. The *continuous* application of a *mild* antiseptic is much more suitable for the eye than the *short* application of any *strong* and therefore irritating chemical. In other cases I have used the common surgical mixture of iodoform with boric acid and have so far always been encouraged by the result. Although the moistened powder tends to enter into

a crystalline state, no harm seems to result therefrom, but I hope to find some combination free from this defect.

"There is a tendency to underrate the value of boric acid as an antiseptic, because large vegetable fungi flourish in its solutions, and its slaying power over microbes is so small, and truly this does point to the inefficiency of its merely temporary application. But its *retarding power* is not to be despised, since it is stated that meat may be kept for years in its solution without putrefaction. Neither can we reasonably suppose it would be used so largely to preserve milk if it were devoid of preserving power.

"I sometimes place a small circle of the finest bishop's lawn over the inner canthus before adding the boric acid powder, but am not sure that this, though it certainly protects the eye from an occasional gritty feeling, is so efficacious, since it does not excite the flow of tears quite so much, and it is really rather advantageous for a little powder to work in its way between the lids close to the lachrymal passages.

"Some of the numerous antiseptic powders being introduced so diligently may prove better than boric acid, but the principle is all I speak of now.

#### *The Use of Heat and Cold After Dissection for Congenital Cataracts.*

"Considerable diversity of practice seems to exist with respect to the use of hot and cold applications after dissection for cataract, and for the operative treatment of myopia; some use ice only, and that for a needlessly long term; others use nothing at all; and few, if any, use heat.

"I have tried to settle for my own

guidance the indications for heat and cold by the very close observation and frequent visiting of cases, and although far from claiming to have reached finality, have formed definite conclusions in my own mind. These are that ice is valuable in every case from the second to the eighth hour or thereabout after the operation, when it wonderfully aids the atropine in dilating the pupil. After this its benefit is more doubtful. In some cases where the lens rapidly swells, heat may become indicated as soon as the tenth hour, but more often not until the morning after the operation. As soon as indicated it is just as grateful to the patient as the ice was before. It may be tersely put thus: *A small pupil shortly after operating cries for ice. A dilated pupil with swelling lens, and especially if with rising tension, cries for heat.* If the tension rise on the third or fourth day or later, heat is simply invaluable, and should be applied every two hours for from ten to twenty minutes, either dry or in the form of hot fomentations applied with the face up instead of down. The best way of applying heat, if a properly-shaped little sponge be not available, is to place a piece of bread about the size of an egg within a handkerchief, and each time after soaking it afresh, I advise that it be pressed against the back of a dessert spoon, kept in the water, which indents a hollow to fit the eye."

The author calls attention to an article of his in 1894 published in the *Edinburgh Hospital Reports*, page 636, upon the effects of posture, which still seems to him to be important. "If the

face be up instead of down, the engorged veins can more freely empty themselves. The fewer the number of operations performed for lamellar cataract or high myopia the better *ceteris paribus* will the result be. The best cases are those in which a single needling effects the entire solution of the lens; and the knowledge of what can be done by cold and heat in their appropriate seasons removes the fear which dictates only a slight needling on the first occasion. Such, at least, is the opinion I would venture, without for a moment placing it on a par with that of more veteran observers should theirs differ. With rising tension, dry heat (whether electric or by a Japanese muff warmer held against, or even tied over, the eye) forms a valuable auxiliary after each fomenting, but should not replace the fomenting altogether, for the gentle disturbance of the eye, forming a kind of hot massage, plays, I believe, an important part in the process of absorption.

#### *Massage as an Aid to Local Anæsthesia.*

"It is some advantage to know that the penetration of eye drops may be assisted by massage through the eyelids. After asking the patient to look down, and dropping the cocaine solution on the site of the operation, massage through the upper lid works it deeply in and anesthetizes the iris. It is more particularly in the presence of high tension that I have found this little expedient useful, and some cases of glaucoma that would otherwise have required chloroform have been

rendered operable under cocaine by this simple measure..”

#### *Miscellaneous Notes.*

The speculum the author prefers is one with a guard for the lashes of the upper lid only. This demands a speculum for each eye. He thinks the specula with guards for the lashes of the lower lids interfere with the extent of the field for the conjunctival forceps.

For a sterilizer he likes one which carries everything required exposed to view on a single tray, including the pledgets and eyedroppers.

The author has devised an electrical warmer that is placed in the dressings after extraction, that is very light and

not cumbersome, that can be attached and disconnected at will, which he has found of great value in the uncommon, but not very rare, event of ciliary neuralgia, or cyclitis. He thinks it might be advantageous to apply continuous warmth in this manner in the case of patients who are very old and with low vitality.

He favors the use of a strong pilocarpine solution immediately after simple extraction. Dionin, he thinks, is unsuitable for instillation during the first few days on account of the sneezing which it is apt to excite, but he often uses it regularly thereafter, with the idea that it hastens absorption of lenticular remains.

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### Foreign Literature.

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*Conducted by Wm. J. Baird, M. D., Boulder, Colo.*

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#### THE TREATMENT OF CAPILLARY BRONCHITIS IN CHILDREN.

Heubner (*Therap. d. Gegenwart*, No. 1, 1905) recommends a mustard-water pack given as follows: Into a vessel containing two pints of warm water put about one pound of mustard (fresh). Stir for 10 minutes. A linen towel large enough to envelop the child is dipped into this mustard water, soaked, and then wrung out and spread on a woolen blanket of corresponding size. The nude child is now laid on the mustard towel so that it reaches well up to the neck. The entire body is now completely enveloped, first in the mustard towel, then in the woolen

blanket, both being closely packed in about the neck and feet.

This pack is continued 10 to 15 minutes, according to the strength of the child. When the pack is removed, the entire skin should be of a bright red hue. From the pack the child is transferred to a warm bath, and washed off clean, and placed in a second pack (already prepared) in luke warm water, being allowed to remain in the pack for one to two hours, if possible until sweating occurs.

During this pack, the child should be watched carefully. This should be followed by a second warm bath, perhaps by a cool douche; and the child should

be dried and dressed warmly. This treatment should not be repeated the same day, but, if necessary may be on the second or third day.

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#### SERUM AND TUBERCULIN TREATMENT OF TUBERCULOSIS.

According to Gervaeerts and Wilbiers (*Verhandl. d. VIII Vlaamischen Naturwissentensch. u. mediz. Congr. z. Antwerpen*, v. 28 September, 1904) in no other country at present is the tuberculin treatment of tuberculosis as generally practiced as in Belgium. At the congress last September, Gervaeerts reviewed the development of the tuberculin treatment of tuberculosis—Koch, Behring, Maragliano, Marechael—and concluded that tuberculin was the best remedy both for diagnosis and for treatment of tuberculosis. He says that the best results are to be had from Deny's tuberculin, that febrile reaction is less likely to follow its use. He reviewed the published works of Turban, Petruschky, Goltsch, Moeller, and others, compared with results obtained by use of Deny's tuberculin, and concluded that the latter is to be preferred.

All form of tuberculosis (laryngeal, lupus, bone, and joint) were successfully treated. Fever is not a contra-indication to Deny's tuberculin.

The secret of success lies in avoiding all reaction. The size of the first dose is determined by the temperature. If there is fever, the first dose should be 0.000001 gram; if the temperature is normal 0.00001. Reaction (if there is

fever) is shown by the temperature coming above the curve already determined.

A dose of tuberculin is only hurtful when it oversteps the already attained degree of immunization. This is shown by loss in weight, and fever—the fever never lasts longer than three days—reaction fever. Increase in weight and absence of reaction allows increase in the dose. With the first loss of weight, even of 500 grams, the dose must be reduced, or better, treatments temporarily discontinued.

A good tuberculin cure avoids all reaction.

No more than two doses a week should be given. If there is the slightest reaction, the dose must not be repeated until the patient has been clear of tuberculin fever for three days. Usually the treatment (Deny's) need not interfere with the occupation of the patient.

Roebroek treated a carious fifth rib (tubercular), that had been operated on three times without result, with Deny's tuberculin with a complete cure after five months treatment.

Note—I have made several efforts to get Deny's tuberculin imported to this country, but so far without success. The New York importers claim to know nothing of it.—Editor.

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#### A NEW REMEDY FOR THE NIGHT SWEATS OF PULMONARY TUBERCULOSIS.

Hellmuth reports his experience (*Therap. Monatsschr.*, December,

1904), with veronal in the treatment of the night sweats of phthisis in 30 cases. After two or three doses of 0.3 gram of veronal (in the case of strong men, 0.5 gram) the sweating ceased. Usually there was a slight hypnotic effect. Two cases that had been given

atropin without results were relieved promptly by veronal.

Note—For some time I have been prescribing veronal for night sweats and have been very much pleased with the results. I usually give 0.5 gram at bed time.—Editor.

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## NEWS ITEMS.

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The circular issued by the Illinois State Board of Health, entitled "The Cause and Prevention of Consumption," is now being published in a second edition, the first edition of ten thousand copies having been exhausted in a little over two weeks after its first appearance. Through it the Illinois State Board of Health is having considerable influence on the fight against tuberculosis, not only in that state, but throughout the country. Applications for the circulars have been made from many states, not only by officials, but by individuals, and it is said that a number of weekly papers have wished to use it as a supplement to their publication.

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The stockholders and board of directors of the Denver Emergency hospital held their annual meeting January 25, and, with eleven of the most prominent physicians and surgeons of the city, merged themselves into the Emergency and General Hospital association, with \$10,000 capitalization. Its ultimate purpose is the enlargement and improvement of the present institution and in the course of time the

erection of a handsome new building. The officers of the association are: President, Dr. John D. Crisp; first vice president, Dr. C. B. Richmond; second vice president, Dr. D. R. Lucy; third vice president, Dr. Bernard Oettinger; secretary, Dr. J. W. Mastin; treasurer, Dr. S. Simon. Mrs. M. M. Day will remain matron and Miss Daisy Blackburn head nurse.

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The osteopaths of Colorado do not take kindly to some of the things done by the State Medical Society. The latter recently introduced a bill in the legislature asserting it to be satisfactory to all the schools of medicine, and the osteopaths are up in arms as a result. In a resolution signed by officers of both the Colorado and the Denver Osteopathic Associations, stringent objection is rendered. The resolution reads as follows:

"Whereas, A medical bill prepared by the Colorado State Medical Society has been introduced into the legislature, claiming to be satisfactory to all schools of healing, and

"Whereas, We understand this bill provides so broad a definition of the

practice of medicine as to include the practice of osteopathy, and

"Whereas, It was not submitted to our state or city society for consideration or approval, and

"Whereas, A separate bill to regulate the practice of osteopathy has been prepared and introduced which does not subject us to examination and license by our profesional competitors,

"Therefore be it resolved, That we deny the alleged satisfaction so far as osteopathy is concerned, and that a copy of this resolution be furnished each member of the legislature."

The first meeting of the National Association for the Study and Prevention of Tuberculosis will be held in Washington, D. C., May 18-19. The following sections have been provided for:

1. Sociology, Mr. Homer Folks, chairman; Miss Lillian Brandt, secretary.

2. Pathology and Bacteriology, Dr. M. P. Ravenal, chairman; Dr. J. McCarthy, secretary.

3. Clinical and Pathological section, Dr. Norman Bridge, chairman; Dr. S. G. Bonney, secretary.

The State Association for the Prevention and Relief of Tuberculosis in Maryland has been recently organized in Baltimore, with the following officers: President, Dr. Henry Barton Jacobs; secretary, Dr. Joseph S. Ames; vice presidents, Governor Edw. Warfield, Mayor E. Clay Timanus, Cardinal Gibbons, Dr. D. C. Gilman, M. Jenkins, E. Levering, Lloyd Lowndes,

of Cumberland, and John Walter Smith, of Snowhill; treasurer, David Hutzler.

The association is composed of physicians and laymen interested in the anti-tuberculosis crusade. Addresses were given by Dr. Edward O. Otis, of Boston, describing the methods of the Boston association; Dr. W. S. Mayer and Dr. William H. Welch of Baltimore, and Dr. Henry Barton Jacobs, secretary of the National Association for the Study and Prevention of Tuberculosis, who gave an account of the origin and aim of the latter society.

The Vermont State Tuberculosis Commission is to have an active propaganda. It will hold meetings in the principal towns of each county of the state, at which it will give addresses to the public on the methods of prevention, and will furnish special information to the physicians. It will also employ speakers to attend the meeting held by the State Board of Agriculture throughout the state.

The medical bill approved by the regular, homeopathic and eclectic state medical associations has been introduced into the house of representatives by Speaker Dickson. It is drawn along the lines as that passed two years ago, but vetoed by the governor, laying special stress upon a definition of the practice of medicine which cannot be evaded by quacks. It provides for a board of examiners to be selected from names submitted by medical associations having a membership of fifty or more.

In the Eastern penitentiary in New York 19 out of 110 prisoners have tuberculosis. They have a special dining room, and their food is prepared in the diet kitchen attached to the prison hospital. Six of the cells are devoted to the treatment of this disease. They have open fronts, and a separate yard attached where the prisoners can have outdoor exercise. The cells are kept perfectly clean, and the asphalt of the exercise yard is scrubbed every day.

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The first report of the New York State Hospital for the Treatment of Incipient Tuberculosis gives the following results: Eighty-two patients have been admitted, 13 have been discharged as cured, 19 have apparently recovered, the disease in 34 has been arrested, 5 have not been observed long enough to admit to any conclusion, and the rest have improved. This is a most remarkable showing, and we can only hope that subsequent reports will prove as favorable.

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The La Junta Sanitarium Association has been organized by Drs. Kearns, Ragsdale, Haskins, Donlon, Hall, Stubbs and Finney, of La Junta, Colo., for the purpose of building a sanitarium at that place to cost \$250,000.

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The Montrose, Colo., grand jury has returned indictments against the two surgeons who, at the command of a mob, on election night mutilated one F. H. Allen, who had been arrested on a charge of criminal assault.

Bills "to regulate" are quite common in the legislature. Senator Drake has introduced one entitled "an act regulating the practice of veterinaries and veterinary surgery." Another, by Representative Bromley, is to regulate barbering, license barbers, and provide for their better education. It is safe to say that none of these bills to regulate will meet as much opposition or discussion as that to regulate the practice of medicine.

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A bill to regulate the practice of dentistry has been introduced into the Colorado legislature by Representative Dunigan. It will probably not meet the opposition which the medical bill will encounter.

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The Illinois State Board of Health offers to make free examination of the sputum in cases suspected of tuberculosis. It has also issued a circular on "The Early Diagnosis of Tuberculosis" for the benefit of physicians.

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The New York Bureau of Health has sent out to physicians blanks for reporting cases of tuberculosis. Houses are not to be placarded.

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The annual banquet to the staff of St. Anthony's hospital was given January 17th. Dr. J. M. Blaine was toastmaster.

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Dr. Alfred Seebass of Denver, was married at Cheyenne, Wyo., to Miss Herta Thiers, of Denver, the latter part of December.



At the regular graduating exercises of the Colorado Training School for Nurses, connected with the Denver County Hospital, diplomas were conferred by Mayor Robert Speer upon the following nineteen nurses: Ida May Mercer, Elizabeth S. Belcher, Vida Matthews, Cynthia P. Dozier, Edna McHenry, Minnie J. McCrossen, Catherine E. Wilkin, Marie M. Farner, R. Virginia Bainard, Jesse B. Leckliter, Edith V. Orman, Clara A. Stevens, Margaret A. Wheatley, Carrie M. Richardson, Catherine B. Crockford, Margaret Fitzgerald, Mary C. Trafford, Christine A. Hammon and Flora V. Plumley.

Addresses were made by Drs. Sherman Williams, C. S. Elder, William H. Sharpley and others. The exercises were followed by dancing. In all, 159 nurses have graduated from this school. Of these 32 are at work in various hospitals in Denver, 32 are in the United States army, and the rest are scattered throughout the world.

### HOSPITAL STAFFS.

#### ST. ANTHONY'S HOSPITAL.

The following is the staff for St. Anthony's hospital for 1905:

*Medicine*—S. W. Miller, M. D. Edward C. Hill, M. D., H. L. Taylor, M. D., C. P. Conroy, M. D., H. W. Rover, M. D. Alternates—Philip Hillkowitz, M. D., D. W. Van Gilder, M. D., C. B. Richmond, M. D., DeForest Atwood, M. D., R. L. Thorp, M. D.

*Consultants*—John Elsner, M. D., J. N. Hall, M. D., P. D. Rothwell, M. D.,

M. Kleiner, M. D., R. Albin, M. D., P. DeCunto, M. D.

*Surgery*—L. E. Lemen, M. D., Geo. W. Miel, M. D., C. H. McLean, M. D., C. K. Fleming, M. D. Alternates—H. R. McGraw, M. D., A. L. Bennett, M. D., J. W. Purcell, M. D., M. R. Root, M. D., F. M. McCartney, M. D.

*Gynecology*—T. H. Hawkins, M. D. Assistants—F. M. Kindig, M. D., M. Hawes, M. D.

*Neurology*—J. E. Courtland, M. D. Assistants—W. J. Rothwell, M. D., A. McGugan, M. D.

*Ophthalmology*—E. W. Stevens, M. D., G. T. Libbey, M. D. Assistants—Edward Jackson, M. D., Melville Black, M. D.

*Laryngology*—J. H. Allen, M. D., D. C. Newman, M. D. Assistant—Robert Levy, M. D.

*Obstetrics*—W. H. Buchtel, M. D., T. Mitchell Burns, M. D.

*Dermatology*—J. M. Blaine, M. D., W. H. Davis, M. D.

*Pediatrics*—C. F. Shollenberger, M. D.

*Pathology*—H. R. McGraw, M. D., M. D. Gunn, M. D.

*Resident Physicians*—J. J. Sarazine, M. D., J. L. Reynolds, M. D., M. J. Spence, M. D., M. J. Waldron, M. D.

#### ST. JOSEPH'S HOSPITAL.

The following officers and staff have been appointed for St. Joseph's hospital for 1905:

*President*—Charles Walker, M. D.  
*Vice President*—Leonard Freeman, M. D.

*Secretary*—Edward Delehanty, M. D.

*Executive Committee*—W. S. Bagot, M. D., Alfred Seebass, M. D., Frank Waxham, M. D.

*Training School Committee*—P. V. Carlin, M. D., J. B. Devlin, M. D., C. B. Lyman, M. D.

#### MEDICAL STAFF.

*Medicine*—Jas. R. Arneil, M. D., J. B. Devlin, M. D., H. H. Martin, M. D., Alfred Seebass, M. D.

*Surgery*—Leonard Freeman, M. D., C. B. Lyman, M. D., W. B. Craig, M. D., I. B. Perkins, M. D.

*Gynecology*—W. S. Bagot, M. D., C. K. Fleming, M. D.

*Obstetrics*—T. J. Carlin, M. D., Edward Dean, M. D.

*Pediatrics*—P. V. Carlin, M. D., J. N. Hall, M. D.

*Neurology*—Edward Delehanty, M. D., S. D. Hopkins, M. D.

*Ophthalmology and Otology*—Chas. E. Walker, M. D., W. C. Bane, M. D.

*Laryngology and Rhinology*—F. E. Waxham, M. D., E. L. Foster, M. D.

*Haematology and Pathology*—J. A. Wilder, M. D.

*Roentgen Ray*—G. H. Stover, M. D.

tinguished scientists have subscribed their approval of the plan. The London *Daily Times* (April 7, 1904) says: "A diploma which will allow persons ignorant of essential matters connected with the sight to pose as the possessors of complete knowledge will not only be extremely dangerous to the public, who are likely to be misled by it, but can hardly fail to react injuriously upon the very sciolists by whom it will be put forward as a credential. \* \* \* Every one would desire that manufacturers and dealers in optical appliances should understand as much about them as possible; but it is not for the public advantage that knowledge of one element of a complicated subject should be passed off as a knowledge of the whole."

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Senator Owens has introduced two bills of considerable sanitary importance. One is to increase the powers of the State Board of Health, giving it full control of the water systems in the state, in the interest of public health. The other is an act to create local boards of health.

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#### OPTICIANS' DIPLOMAS.

The Worshipful Company of Spectacle Makers of London, England, is considering the advisability of issuing "diplomas in the art of eye-sight testing" to opticians found by the company to be worthy of such recognition. Lord Kelvin, Sir Robert Ball, and other dis-

In a recent murder case in Chicago, autopsy revealed the fact that three bullets passed through the victim's heart. He had had, notwithstanding these wounds, sufficient vitality to walk into a saloon and announce the fact that he had been shot, before falling to the floor and dying.

## BOOK REVIEWS.

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VON BERGMANN'S SURGERY. A system of Practical Surgery. By Drs. E. von Bergmann, of Berlin, P. von Bruns, of Tuebingen and J. von Mikulicz, of Breslau. Edited by William T. Bull, M. D., Professor of Surgery in the College of Physicians and Surgeons (Columbia University), New York. To be complete in five imperial octavo volumes, containing over 4000 pages, 1600 engravings and 110 full-page plates in colors and monochrome. Sold by subscription only. Per volume, net, cloth, \$6.00; leather, \$7.00; half morocco, \$8.50. Volume IV just ready. 757 pages, 345 engravings, 16 plates. Lea Brothers & Co., publishers, Philadelphia and New York, 1904.

This volume comprises a treatise on disease of the alimentary tract. Chapters I to IV are devoted to malformation, injuries, and diseases of the oesophagus. Commencing with oesophagoscopy, radioscopy, percussion, and auscultation of the oesophagus, Professor Hacker completes the first chapter with a full description of examination with the oesophageal bougies. Malformations of the oesophagus are briefly described by Dr. Lotheissen. Injuries of the oesophagus are discussed at length, and operations for the same fully described. The description of the various strictures with their operative treatment leaves nothing to be desired. New growths, with the var-

ious methods of treatment, constitutes the remainder of this section.

Chapters V to VIII are devoted to injuries and diseases of the abdominal viscera. Inflammations, and tumors of the abdominal wall are briefly entered into.

About eighty pages are devoted to the peritoneum.

The chapters on laparotomy by Professor von Mikulicz and Dr. W. Couch is certainly to be commended for its thoroughness. Beginning with the preparation of the patient, the technic is ably and completely described and great stress is laid upon the after treatment and complications.

Chapters XX to XXIII deal with hernia. The Baccini operation is but briefly described, while the Halstead method is not mentioned at all.

Chapters XXIII to XXV, inclusive, deal with diseases of the liver and biliary passages. The subject of cholelithiasis is discussed at great length with regard to its pathology and differential diagnosis, and will be a great aid to the surgeon before and after operation with this so often obscure condition. The rule laid down by the author, "It is well not to operate unless there is a clear indication for it, but after operation is decided upon it should be performed thoroughly," will find many adherents among American surgeons.

The last four chapters give the readers a brief review of injuries and diseases of the spleen and pancreas.

Like the preceding volume, this one,

though not as well illustrated, should find its place in the library of every modern and progressive surgeon.

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THE INTERNATIONAL MEDICAL ANNUAL for 1905, and Year Book of Treatment and Practitioners Index. By many editors. Twenty-third year. Price \$3.00. E. B. Treat & Co., publishers, 241-243 23rd st., New York.

We have each year been favored with this truly valuable work, and each year found that it presents distinct elements of improvement. This year its page is increased from a 12 mo. to an 8 vo. size, thus making the volume more convenient, allowing for more material, and permitting better display of illustrations.

The medical literature necessary to the medical student is represented by the text-book. This also is necessary for the practitioner, but there is also rendered essential the ephemeral literature represented by the medical journal, and, as a necessary concomitant, the year book. The work of the present one is especially able, its editors all being men of the highest reputation in the medical profession.

This work is essentially practical. It is divided into three portions. The first, devoted to therapeutic progress, occupies 102 pages. The second, devoted to new treatment, requires 510 pages. The third gives 8 pages on sanitary science. To this is added a short catalogue of the principal medical works published during the year 1904. Thus it will be seen that this is essentially a review of the two subjects of

therapeutics and treatment. The dictionary method is employed throughout, thus making it most convenient to the consultant.

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HOW TO STUDY LITERATURE. A guide to the intensive study of literary masterpieces. By Benjamin A. Heydrick, A. B. (Harv.), Professor of English Literature, State Normal School, Millersville, Pa. Third edition, revised and enlarged. Price, 75 cents. Hinds, Noble & Eldredge, publishers, 31-35 West 15th st., New York City.

This little work will prove of value to those who, not having had the opportunity for competent personal instruction in the study of literature, nevertheless are unwilling to let that important part of general education and culture remain a lacking or deficient element. Indeed, those whose school and college opportunities have not been wanting, will find in it helpful hints for further study and development. It recognizes the fact that education cannot be delivered to an individual as can a package of dry goods or groceries, but must be developed in the person through his own efforts, helped by example and friendly aid. The first portion consists of outlines and hints for the critical study of the various forms of literature. The second consists of a number of examples of the recognized highest types of such forms analyzed according to these outlines, and therefore will prove helpful to the student of literature. Added to these are appendices on figures of speech and versification and a list of

recommended reading, which latter serves as a most convenient and admirable guide.

THE PRACTICAL MEDICINE SERIES OF YEAR BOOKS. Comprising ten volumes of the Year's Progress in Medicine and Surgery. Issued monthly under the general editorial charge of Gustavus P. Head, M. D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Volume 9, *Anatomy and Pathology*. By W. A. Evans, M. S., M. D. *Physiology and Bacteriology*. By Adolph Gehrmann, M. D. *Dictionary of New Words*. By William Healy, A. B. (Harv.), M. D. Price of the volume, \$1.00; price of the series of 10 volumes, \$5.50. The Year Book Publishers, 40 Dearborn street, Chicago, Ill.

There has been but little done in the fields of anatomy and physiology, as shown by the fact that the former department is covered by 12 pages, of which about three are given to illustrations, and the latter department by 17 pages. Much more activity has been shown in pathology and bacteriology. A very great deal of this is especially interesting to the general practitioner, because the material has been selected with special reference to the latter, and the descriptions are particularly clear. Perhaps that which will attract the most attention is the report of the recent investigations in the etiology of small-pox. Work, however, is represented in all of the several fields connected with the two subjects named, and technic has not been neglected.

A glance over the dictionary of new words serves to convey an idea as to the general activity in medical investigations. It forms a portion of the volume which can not fail to be valuable to the possessor.

FISCHER—INFANT FEEDING IN ITS RELATION TO HEALTH AND DISEASE. A modern book on all methods of feeding. For students, practitioners and nurses. By Louis Fischer, M. D., Visiting Physician to the Willard Parker and Riverside Hospitals, of New York City; attending physician to the children's service of the New York German Poliklinik; former instructor in diseases of children at the New York Post-Graduate Medical School and Hospital; Fellow of the New York Academy of Medicine, etc. Third edition, thoroughly revised and largely re-written. Containing 54 illustrations, with 24 charts and tables, mostly original. 357 pages,  $5\frac{3}{4} \times 8\frac{3}{4}$  inches. Neatly bound in extra cloth. Price, \$1.50, net. F. A. Davis Company, publishers, 1914-16 Cherry street, Philadelphia, Pa.

We had the pleasure of favorably reviewing the first edition of the work after its appearance in 1901. The two revisions appearing since then have been considerably increased in contents, which has greatly added to the value.

A chapter which has interested us especially is that on "Buttermilk Feeding", because we have found this of considerable value when a tuberculosis case did not take kindly to fresh milk, and we are exceedingly interested in its spread to the field of infant feeding.

Other new chapters of interest are those on "Milk Idiosyncrasies in Children," and on "Feeding of Children Afflicted with Cleft Palate", as well as that on "Scurvy". It is not saying too much when we add that the work can be thoroughly recommended to the practitioner as a practical handbook with many features of practical value for the physician in his pediadic practice.

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#### THE DOCTOR'S RECREATION SERIES.

Charles Wells Moulton, general editor. *Volume 2. The Doctor's Red Lamp.* A book of short stories, concerning the doctor's daily life, selected by Charles Wells Moulton. 1904. The Saalfeld Publishing Co., Chicago, Akron, O., New York.

This volume forms a worthy successor of the first volume of the series, which we had the pleasure of reviewing a few months ago. The stories selected are most of them by well recognized authors, and are worthy of preservation associated with each other as they are here. Humor, pathos, the physician's life in relation to the family, the patient and the community, are all touched upon by skillful hands. The physician will find that he, his family, and his friends, can perfectly enjoy the work, and that the volume will make a most desirable addition to his library.

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THE PHYSICIAN'S VISITING LIST FOR 1905. Fifty-fourth year of its publication. For 25 patients per day or week, pencil pockets, etc. Price \$1. P. Blakiston's Son and Co., Philadelphia.

This little booklet will be found of great value to the physician. Aside from its tables of incompatibility, poisoning, metric weights, calculating the period of uterogestation and revised dose table corresponding to the new U. S. P., it enables one to keep a correct and thorough account of his patients, as well as professional record of births, deaths, etc.

The book is very neatly gotten up, and can be carried around in the pocket, thus being ever ready to serve its owner. O. M. S.

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A COMPEND OF THE DISEASES OF THE EYE AND REFRACTION. Including Treatment and Surgery. By George M. Gould, A. M., M. D., Editor of *American Medicine*, formerly Ophthalmologist to the Philadelphia Hospital, etc., and Walter Pyle, A. M., M. D., Assistant Surgeon to Wills Eye Hospital, Philadelphia, Associate Member of the American Ophthalmological Society, etc. Third edition, revised and corrected, with 109 illustrations, several of which are in colors. 1904. Price, \$1.00, net. P. Blakiston's Son and Co., publishers, 1012 Walnut St., Philadelphia, Pa.

This quiz compend is already well known in its previous editions to the medical students throughout the country, and is an example of the best of quiz compends. In about 300 pages it presents very briefly the essentials of the medical and surgical diseases of the eye, and also the essentials of refraction. It is well illustrated.

# The Colorado Medical Journal

AND

## WESTERN MEDICAL AND SURGICAL GAZETTE

*A Scientific Medical Journal, Devoting Special Attention to Tuberculosis and Climatology—A Journal of Science, of News, and of Medical Lore.*

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DENVER, COLORADO, MARCH, 1905.

No. 3

### ORIGINAL COMMUNICATIONS.

#### Some Facts About X-Rays.

By MR. G. J. MONAHAN, Denver, Colo.

Formerly Assistant Radiographer to Cornell Medical College, New York.

For a long time only three states of matter were recognized, the solid, the liquid, and the gaseous, but in the year 1816 that great philosopher, Michael Faraday, conceived of its existence in a *fourth state*, to which he gave the name, "Radiant Matter", and he considered this state of matter to be as distinctly different from the gaseous as the gaseous is from the liquid, or the liquid from the solid.

A gas is believed to consist of an aggregation of separate and independent particles or molecules, each molecule being in constant motion, traveling or vibrating in a series of straight paths that are limited in extent by the density of the gas, or, in other words, by the distance between adjacent molecules.

The average distance which the gas molecules can travel before coming into collision with other molecules is called their mean free path, and it is evident that as a gas becomes more

and more attenuated the mean free path becomes larger and larger, its length being inversely proportional to the number of molecules which are contained in a given volume.

The process of exhaustion may be carried to a point where the mean free path of the molecules is so far extended that they can travel inside the containing vessel with comparatively few collisions, and when this condition exists Faraday's conception of "Radiant Matter" is fulfilled, and it is worth noting that this is also the proper degree of vacuum for the production of X-rays.

In 1879, Sir William Crookes delivered his memorable lecture on "Radiant Matter" before a meeting of the British Association at Sheffield, England. In this lecture he exhibited and described very highly exhausted tubes which were almost identical in outside form and internal construction with the X-ray tube of the present time.

Sir William Crookes unquestionably produced X-rays when he made these classical experiments on "Radiant Matter" in 1879, but he did not chance to bring any substance within their range that would have made them directly or indirectly apparent, so they remained undiscovered.

In 1893, fourteen years after the delivery of this lecture, we hear of Dr. Philip Lenard experimenting with Crookes' tubes in Heidelberg, Germany. He made a tube with a little aluminum window in it through which the cathode rays could shine out into the open air, whereas they had previously been confined to the inside of the tube by the glass wall which they could not penetrate. Lenard then discovered that these rays, which have since been called "Lenard Rays" could be deflected by magnetism, could produce photographic action, and cause fluorescence in certain substances, platino-barium cyanide being affected in the highest degree.

Two years later we find Prof. W. K. Roentgen also experimenting with Crookes' tubes in the Institute of Physics in Wuerzburg, Bavaria. He covered one of these tubes with black paper and noticed that when it was excited by the current from an induction coil, a piece of cardboard that had been coated with platino-barium cyanide, and which was lying on the table near by, glowed with a bright green fluorescence, although the black paper completely shielded every ray of visible light that was produced inside the tube by the electric discharge.

Roentgen recognized the existence

of some hitherto unknown radiation, to which both the glass of the tube and its covering of black paper were transparent, and which caused the fluorescence of the platino-barium salt. Placing his hand between the glowing screen and the darkened tube he saw not only the dim shadow of his hand on the shining surface but also the darker outlines of the bones within. Thus was the X-ray at last brought to light. Foreshadowed in Faraday's conception of "Radiant Matter" in 1816, actually produced, but unrecognized, by Crookes in 1879, carried to the very verge of revelation by Lenard in 1893, *discovered* by Roentgen on November 8, 1895.

The announcement of his discovery was made by Roentgen in a paper read at the Institute of Physics of the University of Wuerzburg, in Bavaria, in December, 1895.

He states in this paper that the term "rays" is used for the sake of brevity, the prefix "X" being given to distinguish them from other rays; such as Lenard's, for example.

Roentgen supplemented his first paper with a second one dated March 9, 1896, in which he presented other characteristics of these rays; such as, their ability to discharge electrified bodies by imparting conducting properties to the surrounding medium, also that they could be originated by all solid bodies, platinum standing at the head of the list in efficiency, and also suggested the use of concave aluminum mirrors for cathodes in the generating tubes. The relaxative transparency of various bodies to the newly discovered rays is



also noted, and some negative results are mentioned regarding attempts to reflect and refract them. It is therefore evident that at this comparatively early date, Roentgen had not only acquired a knowledge of the principal properties of the rays which he had discovered, but also understood very clearly the most important details of the Crooks' tubes required for their production.

The word "focus" is applied to these tubes because the cathode rays converge from the concave mirror and focus on the platinum target. When these minute projectiles, which fly from the cathode with an almost inconceivable velocity, batter against the platinum target in the Crookes tube, at this point of impact the X-rays are born and emanate at all angles from the bombarded surface of the target, but have their greatest intensity at an angle of about  $80^\circ$  or  $90^\circ$  to the line of impact. The target of an X-ray tube is therefore set at an angle to the axis of the converging cathode stream, so that the most intense X-rays may be conveniently projected from the front of the tube.

What are these marvellous rays and how are they originated? Some scientists believe that they are transverse vibrations of the ether, akin to ordinary light waves, but of a much higher frequency and therefore much shorter. There is, however, a growing opinion that, like the cathode stream, the X-rays, themselves, consist of matter in the state of hyper-atomic dust of such transcendent tenuity that it is capable of being projected with almost

inconceivable velocity in straight lines through the very substance of glass and other solid bodies.

One of the most advanced theories in regard to X-rays is that they are formed by the almost infinitely minute particles of the cathode stream battering against the platinum target and rebounding outwards at all angles from the point of impact in the form of a shower of corpuscles. In this case the penetrative power of the X-rays will depend on the velocity of the corpuscular projectiles, and their velocity will be proportional to the intensity of the cathode stream, which, in its turn, will be governed by the voltage of the current, the vacuum in the tube, and other working conditions.

The ordinary induction coil, which may be operated from a direct or alternating current, is the apparatus par excellence for producing the high tension current requisite for the production of X-rays. It may be taken for granted that the general construction and principles of the ordinary induction coil are too well known to require any description here. The efficiency and reliability of its operation are mainly dependent on the interrupter. The Wehnelt interrupter was introduced early in 1899 by Dr. Wehnelt, of Charlottenburg, Germany, and is considered to-day the best interrupter for radiography. With a 12-inch coil and Wehnelt interrupter, X-ray tubes are powerfully excited and radiographs of the pelvis and thorax can be made in 5 seconds and snap shots of the hand, arm, or leg can be made instantly.

## Orthoform in the Diagnosis of Ulcer of the Stomach.\*

By A. E. ENGZELIUS, M. D., Denver, Colo.

Some time ago I read about a claim made by Murdock, of Pittsburg, that the administration of orthoform will clear up the diagnosis in a doubtful case of ulcer of the stomach. This claim rests upon the assumption that for orthoform to have an anaesthetic effect it is required that the nerve-endings are not protected by skin or mucous membrane. For this reason the administration of orthoform will not relieve the pain of a gastritis or a neurosis of the stomach, but will, however, relieve the pain caused by an ulcer. I have since been, watching for an opportunity to test this claim.

A few days ago a man entered my office complaining of severe pain about his stomach. He gave a history which strongly pointed to a case of chronic ulcer of the stomach of about ten years' duration. Palpation elicited marked tenderness in the epigastric region. The stomach contents withdrawn by the tube, which I do not hesitate to use even in a case where an ulcer of the stomach is suspected, revealed an absolute absence of either fresh or altered blood. A hasty analysis of the contents showed them to be of acid reaction, and containing free hydrochloric acid above the average amount. I prescribed alkalies, gave directions as to diet, and told him to return after two days.

He called again the next morning,

complaining that the pain was more severe than ever and asked to be relieved. I now prescribed orthoform, four powders, each  $7\frac{1}{2}$  grains, told him to go to bed and take one of the powders immediately and repeat in case the pain should return.

When I called at his home in the evening he told me that the powder had stopped the pain entirely within a half hour after taking it, but the pain had returned after an interval of from one to two hours, so he had used up all the powders.

In my presence he vomited about a pint of typical coffee-ground vomit.

Murdock reports lately three cases, in one of which appendicitis had been suspected, in another the usual diagnosis had been biliary colic, and in the third case a diagnosis of gastritis was made by at least two physicians. In each case the administration of orthoform was followed by complete relief from pain, and for this reason a diagnosis of ulcer of the stomach was made. The correctness of the diagnosis was afterwards verified by the subsequent course and development of the cases.

The attacks in the case which I have related had been diagnosed on different occasions as nervous dyspepsia, acute indigestion, and gastritis, and the condition had received little or no treatment. The present attack, when

\*Read before the Medical Society of the City and County of Denver, February 7, 1905.

he came under my observation was an unusually severe one.

As is well known, hematemesis, which, together with other characteristic symptoms, would render the diagnosis of ulcer certain, occurs in less than 20 per cent. of all cases.

If the administration of orthoform will help us to clear up the diagnosis of the many doubtful cases which we see,

we have certainly at our hands a diagnostic means which is just as valuable as it is simple.

The matter seems to me of sufficient importance to be worthy of special attention and further investigation by the members of this society—which is my only excuse for having read to you from the report of Murdock, to whose list of cases I have been able to add one case of my own.

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### Light—Its Therapeutic Importance in Tuberculosis as Founded Upon Scientific Researches.

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By J. MOUNT BLEYER, M. D., F. R. A., M. S., LL. D., New York City.

Chairman on Light and Electricity, American Congress on Tuberculosis, held at St. Louis, October, 1904.

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(Continued from the February Number.)

Robert Hunt published in the *Philosophic Magazine* for April, 1840, some very curious experiments which I, myself, followed out to my own satisfaction. It is necessary for a correct understanding of the results obtained, that all the conditions under which the experiments have been made should be distinctly stated.

Six boxes were so prepared that air was freely admitted to the plants within them, without permitting the passage of any of the solar rays, except those which passed through the colored media with which they were covered. These media permitted the permeation of the rays of light in the following order:

1. *A ruby glass, colored with oxide of gold*:—This glass permits the permeation of the ordinary red ray and the

orange and the extreme red rays only.

2. *A brown-red glass*:—The extreme red rays appeared shortened; the ordinary red ray and the orange ray passed freely, above which the spectrum was sharply cut off.

3. *Orange glass*:—The spectrum was shortened by the cutting off of the violet, indigo, and a considerable portion of the blue rays. The green ray was nearly absorbed in the yellow which was considerably elongated. The whole of the least refrangible portion of the spectrum permeated this glass fully.

4. *Yellow glass, somewhat opalescent*:—This glass shortened the spectrum by cutting off the extreme red ray and the whole of the most refrangible rays beyond the blue ray.

5. *Cobalt blue glass*:—The spectrum obtained under this glass was perfect from the extreme limits of the most refrangible rays down to the yellow, which was wanting. The green ray was diminished, forming merely a well defined line between the blue and the yellow rays. The orange and red rays were partially interrupted.

6. *Deep green glass*:—The spectrum is cut off below the orange and above the blue rays. Although the space on which the most luminous portion of the spectrum falls appeared as large as when it was not subjected to the absorptive influence of the glass, there was a great deficiency of light, and, on a close examination with a powerful lens, a dark line was seen to occupy the space usually marked by the green ray.

Robert Hunt's experiments show also, by preparing a case containing five flat vessels filled with different colored fluids, the following:

A. *Red: sodium of carmine in super-sulphate of ammonia*: This gives a spectrum in nearly all respects similar to that given by the ruby glass (1), all the rays above the line drawn through the center of the space occupied by the orange being cut off.

B. *Yellow: a saturated solution of bichromate of potash*: This beautifully transparent solution admits the permeation of the red and yellow rays which are extended over the space occupied by the orange rays in the unabsorbed spectrum. The green rays are scarcely evident.

C. *Green: muriate of iron and copper*: This medium is remarkably

transparent; the blue, green, yellow, and orange rays pass freely, all the others being absorbed.

D. *Blue: cupro-sulphate of ammonia*: This fluid obliterates all the rays below the green ray, those above it permeating it freely.

E. *White*: This is merely water rendered acid by nitric acid, for the purpose of securing its continued transparency. It should be noted that spaces in the boxes have been left open to the full influence of the light in order that a fair comparison might be made between those plants growing under ordinary circumstances, and the others under the dissevered rays.

1 and A. The calorific rays were insulated.

2. A smaller portion of these rays mixed with a small amount of those having peculiar illuminating powers.

3. The central portion of the solar spectrum well defined, and all the rays of least refrangibility, thus combining the luminous and calorific rays.

4. The luminous rays mixed with a small portion of those having a calorific influence.

5. The most refrangible rays with a considerable portion of the least so; thus combining the two extremes of chemical action, and affording a good example of the influence of the calorific blended with the chemical spectrum.

6. Some portion of those rays having much illuminating power, with those in which the chemical influence is the weakest under ordinary circumstances.

B. The luminous rays in a tolerably unmixed state.

C. The luminous rays combined with the least actively chemical ones, as in 6, but in this case the luminous rays exert their whole influence.

D. The most refrangible or chemical rays well insulated.

E. White light.

From these arrangements it will be evident that, although we do not secure the complete isolation of the rays, as we should do with a prism, we obtain the great preponderance of one influence over others, which suffices to insure, to a certain extent, the decided action of that one.

I am well aware that we only arrive at approximation to the truth by the system adopted, but am unacquainted with any method by which these experiments could be continued for any time otherwise than with absorptive media.

When we look on a spectrum which has been subjected to the influence of some resorptive medium we must not conclude, from the colored rays which we see, that we have cut off all other influences than those which are supposed to belong to those particular colors.

Although a blue glass or fluid may appear to absorb all the rays except the most refrangible ones, which have usually been considered as the least caloric of the solar rays; yet it is certain that some principle has permeated the glass or fluid, which has a very decided thermic influence, and so with regard to media of other colors.

The relative temperatures indicated by good thermometers placed behind the glasses and fluid cells, which were used, will place this in a clear light.

The following results present a fair average series, and distinctly mark the relative degrees in which these media are permeable by the heating rays:—

GLASSES.

COLOR	LUMINOUS RAYS NOT ABSORBED	TEMPERATURE
1. <i>Ruby.</i>	Ordinary and the extreme red.....	87 deg.
2. <i>Red.</i>	Ordinary red and orange portion of extreme red.....	83 "
3. <i>Orange.</i>	Little blue, green, yellow, orange, red and extreme red .....	104 "
4. <i>Yellow.</i>	Red, orange, green and blue.....	88 "
5. <i>Blue.</i>	Violet, indigo, blue, little green and some red.....	84 "
6. <i>Green.</i>	Orange, yellow, green and blue.....	74 "

FLUIDS.

A.— <i>Red.</i>	Ordinary and extreme red.....	78 deg.
B.— <i>Yellow.</i>	Ordinary red and yellow.....	80 "
C.— <i>Green.</i>	Blue, green, yellow, orange.....	69 "
D.— <i>Blue.</i>	Green, blue, indigo, violet and trace of red.....	73 "
E.— <i>White.</i>	All the rays.....	89 "

In these examinations the highest temperature was not obtained behind the red media, but behind those which have a yellow or orange tint.

Such were the arrangements adopted; these were sometimes slightly varied, but not to an important extent.

THE FACTS THAT ARE KNOWN FROM RESEARCHES ON THE INFLUENCE OF THE SOLAR RAYS ON THE GROWTH OF PLANTS.

Although there are still many important points which remain open for investigation and others which, although examined, require, from the complexity of their phenomena, still more minute research, nevertheless many important facts connected with the process of germination, and vegetable growth, as affected by solar light, are known which warrant further research into that domain and into that of animal life.

There has arisen a habit of referring all the effects observed in the process of vegetation, etc., to the agency of light,

whereas, it appears that some agencies which are not luminous materially influence the phenomena of vegetable vitality.

Without entering into any discussion in this place on the probable existence or otherwise of a principle distinct from light and heat in the sun's rays, to which we refer the curious chemical changes produced by solar influence, it will be sufficient to admit the existence of three distinct classes of phenomena which can not, I think, be disputed.

These are luminous influence—*light*; calorific power—*heat*; and chemical excitation—*actinism*.

The problem which these researches were directed to solve was the proportion and kind of influence exerted by light, heat, and actinism—as the principle supposed to be active in producing the chemical phenomena of the solar rays has been called—in the various stages of vegetable growth.

The means we have of separating these phenomena from each other are not very perfect; indeed, in the present state of our knowledge, it is impossible to have evidence of the operations of either light, heat, or actinism, absolutely separate from each other. If we use the prismatic spectrum, we have over every portion of it a mixture of effects. Even in the mean yellow, or most luminous rays, we have a considerable amount of thermic action, and, under some circumstances, evidence of chemical power. In the violet rays, which have been particularly distinguished as chemical rays, we have light and heat, and in the calorific rays

we have decided proof of both luminous and actinic power. Experiments show with the prismatic spectrum that we have, in fact, no certainty, that the results due to a particular ray—that ray being regarded as the representative of a particular phenomenon—are not the combined effect of the three forces. The same objections apply to absorbent media, but the amount of each influence is readily determined; and we are therefore enabled to refer any particular result to a tolerably well defined agency.

Before the British Association these facts were made very clear by a large number of exceedingly interesting crucial experiments, and all were embodied in a report thereon. They showed that under the action of those radiations which have permeated variously colored media, such as tinted glass and colored, transparent fluids, it was not sufficient to state that a yellow, red, or blue glass or fluid was employed, as it by no means followed that these media are permeated only by the rays corresponding in color, or by the influences due to a given order of refrangibility.

The difficulties which oppose themselves to experiments made with colored media have been strongly felt by other observers.

Dr. Dauberry says in his memoir, "On the Action of Light Upon Plants, etc."—"The difficulty, however, of comparing the relative intensity of the light transmitted by the variously colored media, which were employed in my experiments, induces me to content myself with showing that the effect of light upon plants corresponds with

its illuminating rather than with its chemical or calorific influence; and to waive the more difficult inquiry, whether its operation upon the vegetable kingdom exactly keeps pace with the increase of its own intensity."

In 1842 and 1844 Robert Hunt again reported before the British Association the following which are the facts:—He stated the kind of examination to which he then subjected each colored screen—"Many effects which have from time to time presented themselves, have convinced me of the necessity of a still more close examination of the order in which radiant principles permeate the media employed. I have, therefore, in every case examined with all care the illuminating, calorific, and chemical effects of the solar rays which have passed the media employed. The amount of light has been determined by measuring off, in parts of an inch, the prismatic rays which pass the screen. This is preferable to any system of measuring which depends upon the power of the eye to appreciate either light or shadow. Having formed a well defined spectrum on a white tablet, and carefully worked off the center of the yellow ray as being the point of maximum light, and the limits of each of the other rays, the transparent colored medium was interposed and the amount of absorption observed. These examinations, many times repeated, were made with reference to the luminous rays only; and, in the description of my experiments, I shall, considering the unabsorbed ray as being represented by 100, express the amount of

light actually effective by such a number as may give the sum of the rays measured off after permeation."

The calorific influences which escape absorption, and which have been determined by the expansion of the mercury in a thermometer with a blackened bulb, placed behind the colored glass or fluid, and by the evaporation of ether from a sheet of blackened paper, as recommended by Sir John Herschel, will be expressed numerically in the same way as light, without reference to the color of any ray. I am far from considering the thermic influences of the solar rays as quite independent of the color of the ray with which they may be associated; but in these experiments on plants, it appears to me, we can only deal satisfactorily with the total amount of radiant heat which is active under the conditions of the experiments, the terrestrial heat being in all comparative experiments the same."

It has, indeed, been shown by Dr. James Stark<sup>1</sup> by direct experiments, and indirectly by other observers, that color exerts a very powerful influence in the conduction, radiation and permeation of heat. Following up some of these experiments both from a scientific and therapeutic point of view myself, I found that tuberculous patients derive the best results by either wearing white garments over the entire body or in a perfectly nude state. This mode of treatment I have followed since 1890 and never since then has this method depreciated in my judgment, even one per cent.

(TO BE CONTINUED.)

1. Philosophical Transactions, Vol. CXXIV, 1833.

## EXAMINATION QUESTIONS

### Of the Colorado State Board of Medical Examiners, December Meeting.

#### PHYSIOLOGY.

*By D. A. Strickler, M. D., Examiner.*

1. Define the science of physiology.
2. Describe the blood. Tell its functions and how performed.
3. Describe the circulation of the blood, giving the forces concerned.
4. Describe respiration, giving its mechanical and nervous mechanism, together with its purpose.
5. Define the terms: a. Tidal air; b. Complemental air; c. Supplemental air; d. Residual air; e. Vital capacity, as applied to respiration.
6. Name the digestive ferments.
- Tell where each is found and its function.
7. Give the mechanical process of digestion.
8. Name the organs concerned in the elimination of waste materials of the body, and give the character of material eliminated by each.
9. Describe the vaso-motor nervous system with its functions.
10. Give the physiological classification of the cerebro-spinal nerves, with examples of each.

#### ANATOMY.

*By S. D. Van Meter, M. D., Examiner.*

1. Name all of the anatomical structures of the leg, including the foot.
2. Draw a diagram of a transverse section of the thigh six inches above the knee, and name the tissues severed by such section.
3. Name the anatomical structures that pass through the crural arch, giving relation from within outward.
4. What tissues are divided in making a typical McBurney incision for appendectomy?
5. What structures compose (a) the knee; (b) the elbow; (c) the wrist and joints?



## PATHOLOGY.

*By Sol. G. Kahn, M. D., Examiner.*

1. Define (a) Regeneration. (b) Degeneration. (c) Metaplasia.
2. On what principle are tumors classified? Mention the important classes of tumors, giving an example under each class.
3. How and whence are pus corpuscles derived?
4. Describe the process of bone repair.
5. (a) What are bacteria? (b) What conditions are favorable to their increase; and (c) What is meant by their toxic products?
6. Give the pathological changes met with in typhoid fever.
7. Describe the rash of scarlet fever.
- (2) When and where does the eruption usually first appear?
8. Give the pathology of tubercular meningitis.
9. Mention (a) secondary syphilitic lesions; (b) tertiary syphilitic lesions.
10. Describe the pathologic conditions causing icterus.

## PRACTICE OF MEDICINE.

*By John Inglis, M. D., Examiner.*

1. Give the differential diagnosis of chronic parenchymatous nephritis and chronic interstitial nephritis.
2. Give the etiology, symptomatology, diagnosis, and prognosis of capillary bronchitis.
3. What do you understand by: Borborygmus; aerophagy; gastroptosis; ascites; brachycardia; chlorosis; hematuria.
4. Write an article, not to exceed one hundred words, on arthritis deformans.
5. Describe a case of psoriasis.
6. In parallel columns give the distinguishing points of chickenpox.
7. How would you distinguish a case smallpox and measles.
- of mitral regurgitation from one of tricuspid regurgitation?
8. Give briefly the pathology and symptoms of infantile spinal paralysis; i.e., atrophic spinal paralysis.
9. a. What is the normal pulse rate of a child one year old?
- b. What is the reaction of saliva?
- c. What is the reaction of the gastric juice?
- d. What is the reaction of the blood?
- e. What is the reaction of the normal urine?
- f. What is the specific gravity of normal urine?
10. Describe a typical case of cerebral hemorrhage.

## CHEMISTRY.

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1. What is an element, a molecule, an atom? Differentiate.
  2. What elements are indicated by the following symbols: O. H. N. C. I. K. L. S. P.?
  3. Give symbol for the following: Sodium, antimony, iron, copper, mercury, silver, tin, gold, bismuth, arsenicum?
  4. What do you understand by chemical action? Give example.
  5. What do you understand by chemical force? Give example.
  6. What do you understand by the equivalence of atoms?
  7. Give test for finding arsenic. What is the best antidote for arsenic?
  8. What is the difference between organic and inorganic substances?
  9. What is an alkaloid? Name a natural and an artificial alkaloid?
  10. How is hydrocyanic acid obtained? Is it a poison?
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## SURGERY.

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*By P. J. McHugh, M. D., Examiner.*

1. Define "sequestrum." Mention the different varieties of sequestra.
  2. Give diagnosis and symptoms of congenital dislocation of the hip-joint.
  3. Enumerate the forms of peritonitis and prognosis in each form.
  4. Give differential diagnosis of femoral hernia.
  5. Define "hematuria," and give causation.
  6. Mention the different varieties of gall-stone, and state the most advanced theory of their origin.
  7. How may a gall-stone cause an acute pancreatitis?
  8. Describe the proper method of introducing a sound into the male bladder.
  9. Mention the varieties of tumors of the vagnia.
  10. Give varieties, causation and symptoms of pelvic hematocele.
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## OBSTETRICS.

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*By C. K. Fleming, M. D., Examiner.*

1. What are the various diameters of the inlet and outlet of the pelvis?
2. What are the signs of pregnancy?
3. What changes occur in the genital organs during pregnancy?
4. Describe the fetal heart sounds, their rate, when and where best heard.

5. What are the causes of albuminuria and edema during pregnancy?

6. What is the best method of delivering the placenta?

7. What do you understand by the term "mechanism of labor"?

8. What is the mechanism in the L. O. S. position?

9. What is placenta previa, and mention the varieties?

10. What precautions should be taken to prevent infection during and after labor?

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## SELECTED ARTICLE.

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### The Diagnosis of Tuberculous Cavities in the Lung.\*

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By HERMAN B. ALLYN, M. D., of Philadelphia.

Instructor in Clinical Medicine, University of Pennsylvania; Clinical Professor of Medicine, Woman's Medical College; Physician to the Philadelphia General Hospital.

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Dr. Kingston Fowler, in 1888, pointed out the portions of the lungs first to be affected in tuberculosis, and the line of march commonly taken by the disease. He believes the primary site is an inch to an inch and a half below the summit of the lung, and rather nearer to its posterior and external borders. Lesions in this situation tend to spread backward, possibly from inhalation of the virus while the patient is lying down. This line of extension explains why early evidence of tuberculosis may be found in the supraspinous fossas when the physical signs beneath the clavicles are of doubtful import. From this primary focus, which in front corresponds either to the supraclavicular fossa or to a spot immediately below the center of the clavicle, the lesions often spread down-

wards along the anterior aspect of the upper lobe, about three-fourths of an inch within its margin, frequently occurring in scattered nodules. A second and less usual site, he said, corresponds on the chest wall with the first and second interspaces below the outer third of the clavicle. The progress of the disease is downward, but it rarely penetrates the interlobar system, only five times in 152 consecutive cases examined post-mortem by Ewart.

In the lower lobe the early deposits are about opposite the fifth dorsal spine and along the interlobar septum, which is roughly marked by the vertebral border of the scapula when the hand is placed upon the spine of the opposite scapula, and the elbow raised to the level of the shoulder. The opposite lung may be affected with sym-

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\*Read before the College of Physicians of Philadelphia, December 7, 1904. From *American Medicine*, February 4, 1905.

metric lesions of later occurrence, or disease may be found close to the interlobar septum corresponding on the chest wall to the upper part of the axilla.

The portions of the lung first to be attacked are of importance in the discussion, because cavities usually form first where the lesion is oldest. While Dr. Fowler's statement may be accepted as expressing the usual beginning and line of march of the disease, it should be mentioned that one sometimes finds the first evidences of the disease in the fringes of the lung, which border the sternum, in the first, second, and third interspaces, or high up in the axilla, or in the lappet of lung which covers the heart.

Ewart\* gives the following figures, showing the location of cavities:

At the apices.....	282 instances
In dorso-axillary region.....	227 instances
In mammary region.....	189 instances
In sternal region.....	61 instances
At base.....	32 instances

Clinically, one finds cavities most frequently anteriorly from the apex of the lung to the third interspace; posteriorly, in the supraspinous fossa, between the scapulas and the spine or beneath the scapulas, next high up in the axilla, and least frequently at the base. Probably cavities must have reached the size of a walnut before they give distinct physical signs.

In the diagnosis of cavities from tuberculous disease of the lung the history of the patient may be of some service, especially bearing upon the duration of the disease and the quantity and character of the expectoration.

While tuberculosis of the lungs spreads much more rapidly in some persons than in others, in the great majority of cases, by the time cavities have formed the disease has lasted at least several months, and, in many cases, more than a year. It is especially in the slowly progressing chronic cases that cavities ultimately form. In acute pulmonary tuberculosis and in the pneumonic forms death usually occurs before softening has progressed far enough to result in excavation. Moreover, when cavities exist, expectoration is more profuse, especially in the mornings, or after a change of posture, and is often nummular. I have frequently seen a patient with a cavity at the apex of the lung lie curled up on the affected side. This posture was evidently assumed in order to avoid the distressing cough caused by constant leakage from the cavity into the communicating bronchial tubes. Of course, after the cavity had become filled with pus, coughing would occur in spite of posture; but change of posture to the opposite side, or sitting up to take food, might result in hard spells of coughing with profuse expectoration. In other might result in hard spells of coughing cases, in which the cavity is relatively dry, the patient may lie preferably on the opposite side. The cough is often exhausting, followed by much dyspnea, and the sputum not so profuse.

But, aside from the duration of the disease and the character of the expectoration, which after all can only excite suspicion as to the existence of a cavity, the statements of the patient are not of much value in diagnosis.

\*Croonian Lectures, 1882.

Precise information can be gleaned from the physical signs alone.

Before speaking of the information furnished by the different methods of physical exploration, I wish to insist upon the importance of (1) a thorough examination, and (2) upon the importance of following an orderly progression in developing the physical signs. A thorough examination can not be made without inspection of the chest, and oftentimes not without inspection of the entire chest uncovered. In women, from motives of delicacy, it is usually best not to bare the entire chest at one time; but even in them in every case in which inspection of the anterior portion of the chest alone leaves the condition obscure, inspection of the posterior and axillary portions can be carried out separately by arranging the clothing so as to cover the parts already examined.

By following an orderly progression, I mean that, after the patient's history has been obtained by patient inquiry, examination should proceed by first obtaining all the information possible by a careful and systematic inspection of the chest, and that inspection should be followed by palpation, percussion and auscultation in the order named. Most of the mistakes in diagnosis of chest conditions result from failure to follow patiently a good method, rather than from lack of knowledge; the examiner without looking at the chest, or with only a hasty glance, proceeds at once to percuss and auscult, and speedily reaches a conclusion, which may be correct, but is very likely to be at least quite incomplete. The foregoing

method is the one I have endeavored to school myself into following. It has given good result. It is applicable to acute and chronic conditions of the lungs, and, for the matter of that, to the body in general. There is nothing novel in it unless it be insistence upon the importance of inspection.

Taking up the methods of examination then in the prescribed order, the first is:

*Inspection.*—It is surprising how much information can be obtained by a careful and systematic ocular examination of the chest. The first essential is a good light. If the patient is lying in bed with one side toward the window, the opposite side will be somewhat in shadow. This position may be unavoidable, but should be remembered in estimating the amount of expansion. When the patient is lying down the examiner must be careful to see that he is lying perfectly flat, without having a shoulder or hip raised above the level of its fellow. If this precaution is not taken, no reliable results from inspection can be had. The best posture is a sitting one, with the face toward the source of light. The patient should sit with the arms hanging loosely by his sides. He must not lean to one side or the other. The general size and shape of the chest are not of much importance in the present discussion, because tuberculosis attacks all kinds of chests, and is, of course, more frequently found in normally shaped chests because the normal type predominates. When tuberculosis has progressed to the stage of cavity formation, there is always loss of

flesh, and not infrequently extreme emaciation; sometimes as much as 40 or 50 pounds have been lost before the patient is seen. As the result of this loss of flesh, the cheeks and temples are hollow, the neck thin, the ears prominent, the clavicles, ribs, and scapulas appear to project, and there are depressions in the fossas above and beneath the clavicles, and above the scapulas. The fingers are often clubbed. Expansion is usually defective on both sides. To see a difference in expansion often requires close inspection under favorable conditions. The best posture for the patient is a sitting one with the light falling equally on the two sides, and the examiner either standing behind the patient and looking over his shoulders, or standing to one side with the eye nearly on a level with the surface of the chest. It is true, one can often see deficient expansion when standing directly in front of the patient, but this is not the best position, and results obtained by it are not to be relied on. Inspection should first be carried out while the patient is breathing quietly, and then he should be asked to take deeper breaths. The region from the nipple to the clavicle is the one where cavities are to be expected and therefore it should receive particular attention. Deficient expansion in this region is highly significant of disease, for almost always the side that expands less is the diseased side, or is the more diseased if both are affected.\* There will often be noticed, too, a little less fulness or roundness

—some flattening in fact—where the expansion was diminished. This is often seen better in the second or third interspace toward the sternum rather than just beneath the clavicle. The second interspace often appears wider and deeper than its fellow of the other side. Moreover, the shoulder on the affected side often droops a little; and if the examiner stands behind the patient he will be struck by the lessened up-and-down movement of the shoulder, and lessened motion of the scapula. The supraspinous fossa of the more diseased side often shows distinct depression compared with its fellow.

Sometimes the entire side, anteriorly and posteriorly, shows defective expansion; generally the deficiency in expansion is limited to the apex. In some cases, also, expansion on the affected side may be noticed to be delayed, to lag behind in point of time that of the sound side. In only one out of 24 cases examined by Sibson with his chest measurer, was the expansion greater on the side having a cavity.

Wilson Fox says, apparently on the authority of Walshe, that occasionally a large cavity with thin walls may even cause a slight local bulging, and under these circumstances the expansion may even improve. Fox adds that in some cases, also expansion is greater over a cavity than over a consolidation. This might be the case if in the consolidation the bronchial tubes were occluded, or the lung covered with a thickened pleura. I have seen bulging occur over a cavity, in the act of cough-

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\*Since writing the foregoing, I have seen a patient with deficient expansion of the left side and a cavity at the right apex, the physical signs of which were especially marked in the supra-spinous fossa. Possibly in this case there had been an old pleurisy on the left side, and then, after a considerable interval, disease began at the right apex and progressed rapidly.

ing; and, when the cavity is near the anterior surface of the chest and covered with a very thin wall, the overlying interspace may be seen to flap in and out in respiration. Sibson mentions the fact that some slight recession may be occasionally observed at the commencement of inspiration.

Of course, it goes without saying that obstruction of the bronchial tubes and feeble respiratory effort will diminish expansion in a cavity as in any chest condition. But there is rarely complete absence of motion, although the degree of motion is almost invariably less than on the other side, even though that, as is indeed very commonly the case, shows disease at the apex in the stage of consolidation.

Sibson\* says: "Although the cavity has, over its center, almost always an inspiratory movement, yet at its margins I have often found the motion abolished, and even reversed. The fourth costal cartilage is often over a consolidated portion of lung, which forms the walls of the cavity. The fourth costal cartilages receded either at the beginning or during the whole of an inspiration in 14 out of 22 cases. The fourth cartilages receded in 6 out of 10 cases on the right side, and in 8 out of 12 cases on the left. Of 39 cases of cavities in one lung, there were 11 in which the upper end of the sternum fell in at the beginning of inspiration. In many cases, both around and over the cavity, the thoracic wall stands still just at the beginning of an inspiration. The lower end of the ster-

num and the adjoining sixth cartilage of the affected side recede either at the beginning of inspiration or throughout in about half the cases. Here, the falling in is due to the elongation of the affected lung through the action of the diaphragm, and its consequent collapse. If there be diminished motion during tranquil breathing, without any morbid cause, the difference in motion will usually disappear during a deep inspiration."

Sibson further says: "From these observations we may conclude that whenever an extensive cavity exists in the lung, the respiratory movements are restrained over that cavity, but not obliterated; that the respiratory movement is greater over the center than over the circumference of the cavity, and that, immediately over the circumference, the ribs or sternum often recede, either during the whole inspiration, or, which is more usual, only at the beginning of it. The firm, tendinous, pleuritic adhesions that surround the lungs in the advanced state of tuberculous disease have more restraining influence over the movements than the disease itself has."

*Palpation.*—Palpation is less valuable than inspection as a method of diagnosis in cavities in the lung, yet it gives useful information. When the light is defective or the patient lies in such a way that one side is in shadow, the examiner's hands may be applied to corresponding portions of the chest and when the patient is asked to take deep breaths a difference in expansion

\*On the Movements of Respiration in Disease and the Use of a Chest-Measurer. By Francis Sibson, Med. Chir. Trans., Vol. XXXI, London, 1848.

is detected by the lessened motion transmitted to one hand. This is a useful measure. Many persons will appreciate much better a motion that is felt than one which is only seen. The fremitus is generally distinctly increased when the cavity is empty, but if there be much fluid in the cavity it may be nearly absent. It is rarely as intense as that over consolidation. Sometimes there is very little difference in fremitus on the two sides, partly due to feeble vocal efforts by the patient, and partly to obstruction of the bronchial tubes leading to the cavity. If the patient have a chronic laryngitis no fremitus may be obtainable.

*Percussion.*—Percussion must be practised with extreme care, and with the ears keenly alert for slight changes in sound, particularly in pitch and quality, or the results will be either negative or positively misleading. The note obtained over a superficial cavity sometimes resembles very closely normal pulmonary resonance. But on listening intently one discovers that it has less volume than the former, while it has a higher pitch and lacks vesicular quality. All resonance which is non-vesicular in quality, Flint classes as tympanitic resonance. Hence the note I am describing would be classed as tympanitic; but it often lacks metallic or musical quality. To my ear it is a muffled sound, without recognizable quality. It seems to be the same sound that West describes as "boxy," and Musser and others have spoken of as "wooden tympany." This sound is not characteristic of cavity, however, for it may be heard in pneumothorax,

and over the upper lobe of the lung in pneumonic consolidation, and above the level of a pleural effusion. In most cases, however, the percussion note over a cavity is either dull or appears so at first. I find that students set to examine a patient with a tuberculous cavity at the apex nearly always report that there is dullness or flatness of percussion. The reason for this is, that the percussion note is so high-pitched, so small in volume, and short in duration, that it is indistinguishable from dullness, unless the quality of the sound is observed. The quality of the sound is tympanitic; that is to say, there is slight musical or metallic intonation imparted to it. The tympanitic quality is usually faint, and may not be heard at all unless the patient be instructed to keep his mouth open while percussion is made. Forcible percussion is generally unnecessary, but the pleximeter finger should be applied firmly and struck a sudden, sharp blow. Flint advises that the examiner's ear should be brought into close proximity to the patient's open mouth during percussion; or, what is still better, that the pectoral end of a binaural stethoscope should be brought close to the patient's mouth, when the tympanitic sounds may be appreciated. It is only fair to say that even with these precautions no tympanitic or amphoric quality may be detected. In such cases either the cavity, if superficial, is filled with morbid, fluid contents, or the bronchial tube leading to it is stopped up, or the cavity is more remote from the surface and is surrounded by consolidated lung which gives its character to the



percussion note. West thinks the percussion note is hardly ever tympanitic; but I am sure that when percussion is made with varying force, with the mouth open and closed, at the end of a held inspiration, and in varying postures of the patient, a tympanitic note will often be obtained. But I have found it present one day and absent the next, probably owing to changed conditions within the cavity, particularly its being filled with fluid contents sometimes and relatively empty at other times. This very changeability in percussion note is suggestive of a cavity.

Two varieties of tympanitic resonance, the cracked metal or cracked pot sound, and amphoric resonance, are, as Flint says, quite distinctive of pulmonary cavity if found within a circumscribed space. But they are not pathognomonic. The cracked pot sound may be developed over consolidated lung, especially when the latter is overlaid with relaxed lung tissue. West says it may be found even over a pleuritic effusion. He says the best example of it he ever saw occurred over an enlarged heart when the lung was perfectly healthy.

The cracked metal sound is developed over large-sized cavities near the surface and communicating with a patulous bronchial tube. It is best developed by fairly strong percussion, the striking fingers being allowed to linger longer on the pleximeter finger than in ordinary percussion; moreover, the patient's mouth should be open, and percussion should be made while he is inspiring.

Amphoric resonance is obtained over smooth-walled cavities which are empty and are surrounded by rigid noncollapsible walls.

*Respiratory Change of Note.*—Friedreich has called attention to the heightened pitch of the percussion note during inspiration. It may cease to be tympanitic if the tension becomes very great. Wintrich's change of note consists in the note becoming higher in pitch when the mouth is open, and lower when the mouth is shut. According to Gerhardt's change of note, the pitch would be higher when the patient is sitting or standing than when he is lying down.

*Auscultation.*—Auscultation furnishes us with some of our most characteristic signs of cavity. The voice sounds are usually transmitted with increased intensity; they may have a hollow sound or exhibit amphoric quality. Flint declares, that while the vibrations may be very intense, they do not present the characters of bronchophony, namely, concentration, elevation of pitch, and nearness of the lung. If the word pectoriloquy is limited to mean syllabic reproduction of sounds, so that the ear applied to the chest may hear not only the vibrations, but distinguish the syllables and words spoken, it must be a very rare sign. I have listened to a great many lungs and do not recollect that I ever heard it but once. I do not think most examiners make any distinction between the reproduction of sounds with increased intensity on the one hand, and bronchophony and pectoriloquy on the other. Flint says: "Articulate words

may be conducted by solidified lung as well as if not better than by the air in a cavity. There is, however, a cavernous pectoriloquy easily distinguished from that which denotes that solidified lung is the conducting medium. If the latter be the case, the pectoriloquy is associated with the characters of bronchophony; we may distinguish this as bronchophonic pectoriloquy. If the speech be transmitted solely through a cavity, the bronchophonic characters are wanting. Then the pectoriloquy is truly cavernous. This distinction I suppose to be original; I have for many years been accustomed to teach and illustrate it clinically.

C. J. B. Williams speaks of a snuffling, blowing, or tinkling character to the voice sounds transmitted through a cavity. The sound is, he says, "like that produced on speaking at the orifice of the tube of a pan-pipe, the pipe of a large key, a shell, or any such hollow body. This accompaniment is sometimes heard when the pectoriloquy or the transmission of the articulate voice is very imperfect; but we have found it to be more distinctive of a cavity than the loudest vocal sound without it."

Probably most persons use the word pectoriloquy to cover the reproduction of spoken sounds, with increased intensity and nearness to the ear; and some add to this, that the sound has a hollow quality. But the actual hearing of articulate speech, by applying the ear over the cavity, must occur very rarely. In most instances, I suspect that we know what the patient is say-

ing, and so think we can distinguish the words, or else we hear them through the air outside the chest.

It has seemed to me that the whispered voice sounds were oftener transmitted with increased intensity through a cavity than through solidified lung, though, of course, they may be heard through either medium. One would expect the whispered voice sounds to have lower pitch when heard over the cavity than when heard through solidified lung. Sometimes they are heard with rather startling clearness in contrast with ordinary speech, and with the fremitus, which may have been defective. This so-called whispering pectoriloquy I regard as one of the most constant signs of cavity. In fact, the cavity may be mapped out by the area over which whispering pectoriloquy is heard.

The breath sounds over cavities are often of greater importance than the voice sounds. They are cavernous and amphoric breathing, and rales.

Cavernous breathing is a low pitched blowing sound, without definite quality, with expiration lower pitched than inspiration, and both sounds variable in length. Its chief distinctions are its low pitch, and the absence of vesicular, tubular or amphoric quality. It is heard over superficial cavities with flaccid walls. In my experience, this sound is rarely heard pure; almost always it is mixed with a tubular sound, denoting consolidation, or has joined with it a faint amphoric quality. This admixture of sound is the natural result of the physical conditions which exist around the cavity. Often the

cavity is surrounded on all sides by consolidated lung, which imparts a tubular quality and high pitch to the breath sounds. Sometimes the inspiratory sound is cavernous and the expiratory tubular, or vice versa. Or, again, there are often a number of small cavities, communicating or not, some of which have flaccid walls and some rigid; hence, we have a sound which is higher in pitch than pure cavernous breathing, and has a faint amphoric quality, particularly on expiration.

When the cavity is large and its walls are rigid, amphoric breathing is heard. Flint says that an amphoric sound, if distinct, be it ever so slight, always denotes pulmonary cavity, provided pneumothorax be excluded. The sound is analogous to that heard over a football when some one is forcing air into it after it is already full of air. It is a high-pitched sound of metallic quality.

Laennec has mentioned two cases of cavity in the lung, in which metallic tinkling was heard in speaking and coughing; and Stokes,\* who refers to this observation, himself has met with three cases. In all there were communicating cavities.

Osler refers to a curiously sharp, hissing sound, as if the air was passing from a narrow opening into a wide space. When the cavity is very large and contains thin fluid, a succussion sound may be obtained when the patient is abruptly shaken. In the rare cases, in which a whole lung is excavated, leaving only a thin shell of lung or a

thickened pleura, the coin sound may be heard.

The rales which are heard over a cavity that contains fluid are numerous, moist, and variable in size. Perhaps a listener is most impressed by hearing so many rales of a size varying from large to small, but all or nearly all, moist. One hears moist, subcrepitant rales, mucous rales, bubbling and gurgling rales. They are often heard both in inspiration and in expiration. In addition, there may be squeaking sounds, resembling sibilant rales, and rubbing sounds, which are probably pleural frictions. I have heard a high-pitched, clicking sound, simulating that heard in a telephone receiver on metallic circuit, when the current is opened and closed. It was heard in inspiration and in expiration. But the lung sound is not quite so metallic as the telephone sound. Moreover, the various rales described may have amphoric quality, and even be accompanied by an amphoric echo. After coughing, the rales often become resonating. The heart sounds may be reproduced in the cavity and have amphoric quality; or blowing murmurs of cardiac origin may be heard.

*Sputum.*—The characteristic sputum of the pulmonary cavity consists of globular, purulent masses, having an irregular or fissured surface, and sinking in water, or, if mixed with mucous shreds floating on the surface; usually there is more or less mucopus also, from the bronchial tubes, and at times a thin pus. The sputum must contain tubercle bacilli to make us certain of

\*William Stokes: A treatise on the Diagnosis and Treatment of the Diseases of the Chest. Philadelphia, A. Waldie, 1837.

the diagnosis. Generally elastic fibers can also be found in the sputum.

*Roentgen-ray Examination.*—I have had no personal experience with Roentgen-ray examinations. Francis H. Williams\* says: "Cavities, if empty, would appear as light areas if the surroundings are suitable. That is to say, the recognition of a cavity depends to a considerable extent upon its size, as compared with the thickness of the encompassing dense lung—small cavities in a dense tuberculous process would not be perceived."

*Cardiopulmonary Signs.*—A cavity at the apex of the left lung may result in contraction and the drawing up of the heart, or sometimes its displacement outward. Occasionally when this happens a systolic murmur is heard in the second and third left interspaces. The cause may be a kinking of the pulmonary artery. But, of course, there may be conjoined diseases of the heart and a cavity in the lung. I have such a patient under observation now. There is a marked double mitral murmur and a systolic aortic murmur, and a cavity at the left apex. The aortic murmur was present before tuberculosis developed, and the heart is not displaced.

To sum up, our most trustworthy signs of tuberculous cavity in the lung are to be found in deficient expansion and flattening of the chest wall over the cavity; in a percussion note which is often high-pitched tympany, especially if percussion is made with the mouth open, but which may be only a muffled sound, or a dull or flat sound;

in pectoriloquy (so-called), particularly whispering pectoriloquy; in breath sounds which are cavernous, tubulocavernous, tubuloamphoric, or amphoric; and in a multiplicity of rales, chiefly moist rales, which after coughing may have resonating quality.

The following cases illustrate the conditions found in examining patients with tuberculous cavities in the lung:

A. H., aged 48, black, was admitted to the Philadelphia Hospital August 17, 1904. She complained of cough, dyspnea, expectoration, loss of flesh and of strength and night sweats. The patient's father was dead of heart disease, her mother was living and well. One sister was living and well, but another living sister had pulmonary tuberculosis. The patient had the ordinary diseases of childhood, but has otherwise enjoyed comparatively good health. She had hemiplegia three years ago in this hospital. She admits moderate use of alcohol.

The general examination of the patient showed a much emaciated colored woman, markedly dyspneic, with cough and much expectoration. The pupils were equal and responded quickly to light and accommodation. The tongue was moist, red, teeth marked along the edges. The pulses were equal, rapid, of moderate tension and compressible. The arteries were slightly thickened. Inspection of the chest showed marked emaciation with deep depressions above and below the clavicles and conspicuous ribs. There was diminished expansion on both sides, but less on the right side, and less

\*The Roentgen Rays in Medicine and Surgery. The MacMillan Co., New York, 1902.

flattening of the upper portion of the right side anteriorly. On palpation vocal fremitus was increased on the right side. The percussion note on the right side was short and high-pitched, with slight metallic quality which did not change when the mouth was opened. Auscultation disclosed increase of vocal resonance. The whispered voice sounds were especially distinct. The breath sounds were obscured by an abundance of rales of all kinds, mostly large, moist or bubbling rales, which on coughing had resonating quality. The inspiratory sound when heard was short and high-pitched; the expiratory sound was lengthened, higher in pitch than the inspiratory, while both had amphoric quality. Posteriorly below the angle of the scapula, the percussion note was dull instead of high-pitched tympanic. The vocal resonance and fremitus over this area were increased, and the breath sounds tubular but obscured by a greater number of sibilant and sonorous as well as mucous rales. Just above and immediately below the clavicle, tympany on percussion is very clear. The voice sounds have amphoric quality on the right side. Among the rales are numerous squeaking sounds which might have been pleural frictions.

On the left side the percussion note was hyperresonant, with slight dullness over the clavicle and in the suprascapular fossa. Anteriorly vocal resonance and fremitus are less than on the left side. Posteriorly the fremitus is a little more distinct on the left side. There was tenderness on percussion on the left side. There was

marked retraction of interspaces on the left side posteriorly, less in the right midaxillary line. The breath sounds on the left side show rough, rather short inspiration, and prolonged, very faint, but bronchial expiration. The prolonged expiration is almost cavernous beneath the left scapula posteriorly.

There was some edema of hands, legs, and face; almost no change in the finger ends. The patient had a hectic temperature, ranging from 97 degrees to 102 degrees, a pulse-rate ranging from 85 to 130, while the respirations varied from 35 to 55 per minute. The urine was of low specific gravity, 1.010, contained a small amount of albumin, and some hyaline casts. The bowels were loose, the stools numbering two to four in 24 hours. The sputum contained tubercle bacilli.

The patient died September 11, 1904. An autopsy was held the following day. The pathologic diagnosis was chronic bilateral adherent pleurisy; fibroid myocarditis; pulmonary tuberculosis with cavity formation; chronic diffuse nephritis; atheroma of the aorta; tuberculous ulceration of the intestines.

Passing over the other organs, the condition of which is sufficiently indicated in the pathologic diagnosis, the state of the lungs was reported by the pathologist, Dr. Funke, as follows:

Left lung crepitates throughout, save lower portion of lower lobe, which is irregular in outline, measure 4 in. by 6 in. in diameter, is firm, cuts readily, section sinks in water. The cut surfaces are not refractive; scattered over them are large gray points, 4 mm. by 8 mm. in diameter, circumscribed round

or oval, denser at the periphery than at the center, and resembling caseation necrosis. The cut surfaces of the remainder of the lung are pinkish-gray in color, with black markings, and they are covered with pinkish frothy fluid. The right lung is bluish-black in color, does not crepitate, cuts readily, and cut surfaces are grayish-black. There is a cavity at the apex, 4 cm. by 10 cm. in diameter, containing grayish-white substances (caseous). The walls are irregular and made up of caseous substance, and into this cavity many small-similar ones open. The lower portion of the upper and lower lobe has many cavities, varying from 4 mm. to 1 cm. in diameter, and of similar structure to that at apex. There are also grayish-white circumscribed areas, firm, 1 cm. to 1.5 cm. in diameter, firm at the periphery, soft at center, composed of a substance simulating caseation.

The post mortem findings in this case account very satisfactorily for the physical signs. The notes, however, do not state what was the fact, that the walls of the main cavity at the apex were firm.

W. E. L., white, aged 62, driver, was admitted August 21, 1904. He complained of cough, dyspnea, expectoration, loss of flesh and strength, night sweats, and pain in the chest.

The patient's father had died of pulmonary tuberculosis, his mother of bronchitis. He had two sisters living and well, one brother killed in war, and one sister died of pulmonary tuberculosis. The patient had had the ordinary diseases of childhood, and gonorrhea many times. He was given to ex-

cessive use of alcohol and tobacco.

He had been ailing for 15 months. The pupils were equal, dilated, responded to light and distance. The tongue was dry, heavily coated, tremulous. The pulses were equal, of high tension, full, regular, compressible, the arteries thickened.

The patient was much emaciated and said he had lost 40 pounds. The clavicles were prominent, the scapulas winged, the right shoulder was lower than the left. Posteriorly, the right side seemed shrunken. Right supra-sternal fossa was deeper than the left, and the right lung anteriorly, especially at the apex, expands less than left, and as compared with the left there is very slight flattening beneath the clavicles. Vocal fremitus and resonance are increased on the right side down to third rib, and the whispered voice sounds are reproduced with even greater clearness than the ordinary voice. Above the clavicle, over and beneath the clavicle, the percussion note is tympanitic, especially just beneath it at its middle portion. The musical quality comes out much better with mouth open. Pitch of the note is very high, almost, if not quite, as high as that of dullness or flatness. The breath sounds are amphoric down to third rib, anteriorly. After coughing there are high-pitched crackling rales, somewhat resonating. Below the third rib the percussion note is somewhat hyperresonant. Inspiration is slightly bronchial. No change in vocal resonance or fremitus, and only occasional rales. Percussion note above left clavicle is dull, and slightly dull

beneath left clavicle. The breath sounds were feeble, and after coughing on deep inspiration there were a few crackling rales.

The temperature was normal from admission, except on August 23 and 24, when it rose to 100 degrees, and then fell afterward to normal and continued so until death. The sputum contained tubercle bacilli.

F. T., white, aged 22, a native of Japan, sailor, was admitted September 12, 1904. The patient complained of cough, dyspnea, expectoration, loss of flesh and strength. His father and mother are living and well; two sisters are living and well; three brothers are dead, causes unobtainable; also past medical history unobtainable.

The patient is a poorly nourished young Japanese, who has been complaining for about a month and a half. The tongue is moist and slightly coated. The pulse is regular, of good volume, compressible.

When examined September 16, the chest was moderately emaciated, the left clavicle more prominent than the right. Expansion was diminished over the left lung. Breathing was almost altogether abdominal. Fremitus increased on the right, diminished on

left side. The left apex, above the clavicle, and to a less extent below, has percussion note impaired, high-pitched with slight tympanitic quality beneath outer portion of clavicle. From second rib down percussion note is hyperresonant. There is broncophony on the right side above the clavicle, and down to second rib. The whispered voice sounds are especially well reproduced and have an amphoric quality. Breath sounds above and below clavicle are amphoric. After coughing the rales have a resonating character. When in the upright position on looking over shoulders, the upper part of right lung seems to move less than left. Posteriorly the right lung is dull from apex to base, fremitus is feeble. Voice sounds have a slight egophonic character. Breath sounds are feeble, bronchial in character, with numerous high-pitched crackling rales. Breath sounds beneath left clavicle are somewhat roughened. The pupils are equal, they react to light and to accommodation. The tongue is red and moist; the pulses are equal, regular, rapid, or high tension; arteries thickened. The heart sounds regular, rapid, strong, no murmurs. The temperature has ranged between 97 degrees and 99 degrees since admission.

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According to the first report of the New York Hospital for Incipient Tuberculosis, located in Raybrook, New York, of the 82 patients who have been admitted since July 1, when the institution was opened, 11 have been dis-

charged cured, 19 have apparently recovered. In 34 there is arrest, and all the rest, except 5, whose length of observation has been too short to justify conclusions, there has been improvement.

# THE COLORADO MEDICAL JOURNAL

AND WESTERN MEDICAL AND SURGICAL GAZETTE

*A Monthly Journal for the Medical Profession of Colorado and Adjoining States.*

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## EDITORIALS.

### EXERCISE IN PULMONARY TUBERCULOSIS.

Dr. R. W. Graig, of Phoenix, Arizona, in an article on "Should Pulmonary Tuberculosis be Treated at Home?" (*N. Y. and Phila. Med. Jour.*, Dec. 3, 1904), speaks as follows on this subject:

"It is easily possible for a patient unwittingly to do himself more damage in one half day than can be repaired in a month.

"Much has been said on the question of exercise for pulmonary invalids, and its value has been maintained by many

good men, but I believe it has been the experience of most men who have seen large numbers of these cases that, as a general proposition, to take much exercise is the worst thing that a patient can do, and almost every so-called cold and exacerbation of the tuberculosis is due to taking too much exercise.

"Almost every patient that comes to Arizona has been advised by his family physician to 'get out doors and rough it'. This he generally does soon after his arrival, and has to call in a physician to prescribe for his 'cold', which is nothing more nor less than a result



of his over exertion. Any exercise or exertion which produces fatigue, anorexia, malaise, or causes an increase in the evening temperature is a positive injury, and should be strictly prohibited."

This is a subject which really can not be discussed too much. Twenty to twenty-five years ago exercise was almost uniformly prescribed by physicians for consumptive patients; indeed, to such an extent that the laity has become thoroughly imbued with the idea that every consumptive, no matter how sick, should take abundant active exercise in the open air. It is now with them as it formerly was with physicians, almost an axiomatic treatment. Of late years the medical profession generally has recognized that this is not only an error, but in many cases a crime.

This recognition, however, is not as thorough as it should be. It is not only among patients sent to Arizona that we find such advice has been given. It is to be combated in every resort frequented by consumptives. That the old belief dies a hard death, and is even yet held by some physicians of recognized ability, even in health resorts, is evidenced by the following case, of which but few details need be cited:

A gentleman of erethistic temperament, 28 years of age, having distinct involvement of the apices of both lungs, having daily chills and fever, and with temperature ranging from 103° to 104°, was sent to Denver as being a good place for him to live, he having the promise of a good out-door position

as soon as he was able to take it. The physician he consulted advised him to take out-door exercise. This was continued for three weeks, the patient steadily growing more weaker, and his bad symptoms growing more pronounced. At the expiration of that time, he consulted another physician who immediately ordered him to bed. The result was a marked fall in the fever, so that within a month the rise above normal was very slight, and could each time be traced to exercise. The chills disappeared, and there was a gain of 8¾ pounds in weight in six weeks. Furthermore, the general appearance of the patient was very much improved. The general method of treatment, aside from the question of rest or exercise, had been probably practically unchanged, so that the evident bearing of exertion on the course of his case was very striking.

This is a question which comes home to every consumptive, and is worthy of the closest attention on the part of the physician.

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#### THE JAMES ALKALIODAL COMPANY.

Sometime since our attention was called to the James Alkaloidal Co. by one of our regular advertising customers. Inasmuch as the advertisement of that company appeared in the advertising pages of the *Journal* before we had any information as to its character, we reproduce herewith some of the literature submitted to us concerning it:

**"THE JAMES ALKALOIDAL CO.—MOR-**light on that nefarious business. In  
**PHINE FIEND MANUFACTURERS."**

*"From October Critic and Guide."*

"I am told that The James Alkaloidal Company is very rich and influential, and that it is dangerous to attack it. So much the more reason for doing it. I exposed them in the May issue in pretty unequivocal language, and I will say now that after a more thorough investigation I find they are the rottenest proposition in America to-day. The postoffice authorities ought to step in and stop their pernicious business of manufacturing morphine fiends. Almost every state in the Union has a law against the indiscriminate sale of morphine, but of what use are such laws, if any man, woman or child can write to The James Alkaloidal Co. and get all the morphine they want? I asked a lady friend to send a dollar for some of their morphine tablets. Was there the slightest hesitation on their part? Not at all. The tablets came, along with the following letter:

"Dear Madam:—Your favor at hand enclosing \$1.00 and ordering 100 ¼-gr. Improved Morphia Tablets. We do not make any reduction in price, except in large quantities, say 5,000 or more, but where patient orders \$5.00 worth of tablets we forward them under special delivery stamp. (!) Thanking you for the order and awaiting your further favors, we are, yours truly,  
 The James Alkaloidal Co."

"Now isn't this rotten? I am not through with that company yet. I have certain matters under investigation which I expect will shed interesting

the meantime, for the benefit of those who may not have seen it, I will reproduce the editorial anent that company from the May issue.

*"From May Critic and Guide."*

"Our friend Gould says there are different degrees of scoundrelism in the nostrum business. The lowest depths seem to have been reached by a concern styling itself The James Alkaloidal Company, of St. Louis. (By the way, have you noticed how many fakes and frauds originate in St. Louis?) That dastardly concern actually encourages people to use morphine, to become morphine fiends, telling them that by their method of "preparing" morphine, a person can use the drug without danger of any tell-tale symptoms. 'By this combination the tell-tale and distressing symptoms that accompany the use of plain morphine sulph., i. e., contracted pupil, lustreless eye, sallow complexion and nausea, are overcome. When our Improved Morphia Tablets are substituted by the habitue for plain morphine sulph., they will strengthen the procreative organs and prevent heart depression, nausea, etc.' And the whole front page of their circular is occupied by the letter of a morphine fiend, who signs himself McA. D. Campbell, M. D., California, and who writes as follows: 'You struck the keynote when you so prepared morphine as to do away with the tell-tale symptoms so dreaded by the habitue, to-wit: the sallow complexion, contracted pupil and lustreless eye. I now use your improved morphia tablets, and I defy any one to tell from my

general appearance that I am using an opiate in any form. My eyes are bright, my skin is clear, my kidneys and bowels act freely, and I get exhilaration from every dose. I cheerfully recommend," etc.

"Can degradation go any lower? And must physicians stand the insult of receiving such circulars by mail? And shall such a company that caters to morphine fiends and that actually encourages the morphine habit, by claiming that it has succeeded in doing away with its disagreeable features, be allowed to exist? Let the readers of the *Critic and Guide* answer.

"P. S.—On investigating, I find there is no Doctor McA. D. Campbell in any medical directory of any state. The testimonial is, therefore, most probably a FRAUD. There are the names of four other physicians signed to testimonials in their circular, which are not to be found in any directory at the addresses indicated. And so The James Alk. Co., besides manufacturing a wretched product, also manufactures testimonials from non-existing physicians, testimonials which disgrace our profession. Let the profession bear that concern in mind!"

*"Isn't that enough to hang them with the rope of disapproval?"*

"MANDRAGORINE."

*"From June Critic and Guide."*

"I am going to tell you something confidentially. There is a big fuss being made about Mandragorine and I have received dozens of letters asking information about that alkaloid. You know it is hawked about as a cure for

morphinism, etc., etc. Well, there is an alkaloid mandragorine and it can be prepared from mandragora officinalis. This alkaloid is isomeric with atropine and has the same physiologic effect, etc., and what I learn from very well-informed sources is, that the fakirs simply use atropine and call it mandragorine, so as to be able to charge a fancy price. I can find no house in this country or in Europe that manufactures mandragorine, and the little concerns, like The James Alkaloidal Company, that advertise it have not the brains, the knowledge or the facilities to isolate the alkaloid from the root. I am now analyzing the alleged mandragorines, and results will appear in the July issue. In the meantime, do not waste your money on "mandragorine."—Use atropine.—*Critic and Guide*.

June, 1904."

"A WARNING."

*"From Printers' Ink, October 26."*

"Louisville & Nashville Railroad Co. Office of the General Passenger Agent.

Louisville, Ky., Oct. 14, 1904.

"Editor of Printers' Ink:

"When you re-issue the American Newspaper Directory for 1905, I would suggest that you omit the *Times*, published at Memphis, Tenn. This is a fraudulent publication and Mr. H. J. Boswell, who claims to publish such a paper, as well as the *Tribune-Courier*, has caused the railroad companies a great deal of trouble in his attempts to secure transportation on account of both of the above publications. Both publications have been thoroughly in-

vestigated by us and we can not find that either of them exists.

"Yours truly,  
"C. L. STONE,  
General Passenger Agent."

It is alleged that the "James Alkaloidal Co.," "The Tri-Elixir Remedy Company," "The Old Colonial Sanitarium Co.," the "Memphis Times" (said to have been suppressed), and the "Hospital Bulletin," of St. Louis (likewise said to have been suppressed by the postoffice), are practically one and the same. On the other hand, we have received other communications, purporting to represent the other side of the question. These consist of, first, an anonymous type-written communication mailed from New York, attacking the private character of the editor of the *Critic and Guide*, but not in any way touching upon the charges made against the companies above mentioned. Second, a copy of the *Memphis Times*, volume 7, No. 1, January 8, 1904, on the front page of which is reproduced what purports to be the first page of the *Memphis Times* of November 27, 1904. In it is an editorial attacking the *Critic and Guide* and *Printers Ink* for their attacks upon the *Memphis Times*; also a portion of the *Memphis Times*, dated January 29, 1905. This reproduces the attack on editor of the *Critic and Guide*, together with his response, and then proceeds to flay him.

There is something rather peculiar about the *Memphis Times*. It is an eight-page, six-column paper, purporting to be a weekly. At the top of the

editorial page is the following, which is of interest:

"Entered at the postoffice at Memphis, Shelby County, Tennessee, as second class mail matter.

H. J. Boswell, - Managing Editor.

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## PROGRESS OF MEDICINE.

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### Tuberculosis.

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*Conducted by Wm. N. Beggs, A. B., M. D., Denver, Colorado.*

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#### TUBERCULOSIS IN OUR PUBLIC INSTITUTIONS.

From a paper on this subject by Jas. Greenwood, M. D., of San Antonio, Texas, published in the *Medical News* for November 12, 1904, the following is taken:

"The tuberculosis record at the Southwestern Insane Asylum is as follows: During the twelve years of its existence there have been 392 deaths, of which 85, or twenty-one and two-third per cent. were due to tuberculosis. Nine-tenths of our patients are between twenty and fifty-five years of age. Eleven-twelfths of our deaths from tuberculosis were at this age. The total death rate per 1,000 living in the United States for this age is about ten, of which 4.4 to 4.8 is due to tuberculosis. In the asylum for twelve years we have had an average yearly death rate per thousand, treated for this age, due to tuberculosis alone, of thirteen. This is more than from all other diseases on the outside, and three times as many as are caused from tuberculosis in the United States alone for this age.

"During the first three years there were no deaths from tuberculosis; but, as the wards became infected, the death rate from tuberculosis has increased, until it has averaged eighteen per 1,000 treated for the last five years. The average length of time in the asylum of those dying with tuberculosis has been three and one-half years. Thirty-eight, or over one-half, were here from one to four years. Sixteen had been here under one year, and twenty-four for five years or over.

"In the last twelve months on the female side, we have had twenty-nine deaths, of which nine, or thirty per cent. were due to tuberculosis. This is nineteen per 1,000 treated. Of these nine, three died on Ward C, and three more were sent from this ward to the hospital after the disease was contracted. Six of these nine cases, therefore, contracted the disease in this ward. This is the ward where our most demented cases are kept, and presents the most favorable conditions for contracting tuberculosis on account of the physical condition of the patients, and the difficulty of preventing those

already affected from infecting the ward.

"On the male side we have had during the last twelve months twenty-eight deaths, of which eight were due to tuberculosis. Four contracted the disease on Ward No. 7, a ward very similar to C, in the character of its patients, and the other four on Ward 4, where about nine-tenths of the cases are dementia. Of these cases eight were dementia.

"At present we have six known cases of tuberculosis, all female, and all are at the hospital. Of these six cases, four contracted the disease on Ward C, the same infected ward that has been responsible for so many cases.

"Our methods of prevention are as follows: All cases are sent to the hospital as soon as diagnosed. Some few patients are too noisy and violent, and have to be kept on the wards; these are sent to Ward C. At the hospital, when possible, patients are made to use spittoons, in which five per cent. chloride of lime is kept. Clothing on which they have expectorated is removed at once. All clothing, sheets, etc., of these patients is put into separate bundles, sent to the laundry with directions to be boiled before opening. All these patients use separate cups and glasses. Mattresses are disinfected by exposure to two per cent. formaldehyde gas for eight hours in a sealed room. The floor is washed with chloride of lime solution, instead of sweeping.

"We have had no known case of tuberculosis to develop at the hospital during the last year; so, considering the number of tuberculosis cases pres-

ent, and the difficulties attending them, our methods have been very successful.

"In Ward C we have made some radical changes. Any room in which a tuberculosis patient has been sleeping is disinfected. The clothes are sent to the laundry to be boiled; the mattresses disinfected by exposure to formaldehyde in a sealed room, the room, floor, walls, and bedstead are washed with five per cent. carbolic solution. All for six hours to formaldehyde gas. The walls and floors are washed with five per cent. carbolic solution. There are no rugs, carpets or curtains to collect dust. Often the floor is scrubbed with chloride of lime or five per cent. carbolic instead of sweeping. All muco-purulent expectoration is watched for, examined for bacilli, and the patient examined so as to be isolated at the earliest possible moment. During the day this ward is kept almost free from patients. They are usually in the park, but when they come back, they go out on a long gallery.

"At present we have a law that no patient laboring under an infectious or contagious disease shall be admitted to the asylum. Tuberculosis should be included in this classification, and no known case should be admitted until a separate hospital is provided, where they can receive proper attention, and yet not endanger the lives of others."

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#### THE PREVENTION OF TUBERCULOSIS.

T. E. Oertel, M. D., of Augusta, in a paper on that subject read before the Georgia Medical Association, and published in the *Charlotte Medical Journal*

for October, 1904, draws the following conclusions:

1. That tuberculosis is a communicable disease.
2. The sputum and nasal secretions are the chief sources of infection.
3. Infection by tubercle bacillus may be prevented.
4. The prevention of tuberculosis must be brought about by concerted action.
5. Such action embracing all laws and hygiene properties on the part of the tuberculous patient on the one hand and the public on the other.
6. The education of the public through the endeavor of the medical profession, local boards of health, and by free public lectures.
7. Dairy herds to be investigated by the tuberculosis tests.

#### INTRA-PLEURAL INJECTION FOR TUBERCULAR PLEURISY.

James A. Burroughs, M. D., of Ashville, North Carolina in an article entitled "Clinical Experiments in the Treatment of Tubercular Pleuritis and Other Serous-Cavities With Report of Cases," read before the Mississippi Valley Medical Association, and published in the *Lancet-Clinic*, advocates the intra-pleural injection of two to three pints of normal salt solution for the treatment of tubercular pleurisy.

Influenced by Murphy's address on the injection of nitrogen gas for the arrest and cure of consumption, at Denver in 1898, he employed the salt solution for the arrest of intractable or severe pulmonary tuberculosis, with to him satisfactory results. Some of these cases being also subject to tubercular pleurisy and being apparently decidedly improved by the treatment, he was induced to apply it directly for treatment of the pleural trouble. This has been given in 83 cases with satisfactory results in 77. The number of injections given varied from one to eight.

"After these pleural injections, a very profuse perspiration developed with an increased action of the kidneys; the heart invariably becomes normal, the patient becomes free from pain, and the temperature drops to normal, sometimes below. Under no circumstances is the patient allowed to assume an erect posture under twenty-four hours; indeed, in most instances he should be kept quiet from forty-eight to seventy-two hours."

In the discussion of the paper Dr. McKittrick, of Burlington, Iowa, and Dr. Carl von Ruck, of Ashville, North Carolina, declared the injection into the pleural cavity to be positively dangerous. The author himself reports in the paper two cases corroborating this position.

Another international association for the study of tuberculosis is the Societe International de la Tuberculose. Its headquarters are located at Paris. Its purpose is the study of all questions concerning tuberculosis, and to central-

ize the means of defense. The membership is to consist of physicians or scientists holding diplomas from French or foreign universities and colleges. The annual fee is \$2.50. The general secretary is Dr. George Petie, 51 rue du Rocker, Paris, France.

## Neurology and Alienism.

*Conducted by B. Oettinger, M. D., Denver, Colorado.*

### THE SUCCESSFUL REMOVAL OF CEREBRAL TUMOR.

Pope and Cartledge (*Medical Fortnightly*, Vol. XXVII, No. 6) report the successful removal of a cerebral tumor. The patient, an electrical engineer, aged 33 years, gave a history of a fall upon the head from a hay wagon in early youth and also of luetic infection six years prior to examination. After a constant frontal headache of one year's duration, he experienced the first "attack" in September, 1892. This consisted of a feeling of numbness in the left leg, inability to move the limb, followed soon by a cry and unconsciousness. The last condition continued for forty-five minutes, during which clonic convulsions of the leg occurred constantly. Upon awakening to consciousness, the patient was nauseated and vomited. After two hours in bed he felt normal.

A week later a seizure practically identical with the last, but involving the right leg, occurred. He remained in bed two days, but, upon getting up, could not use the right leg, in which, however, sensation remained perfect. The use of the limb was regained in six weeks. In December, a third attack again involved the left leg. After peculiar feeling in the member, jerking commenced, the patient became unconscious, remaining so for twenty-five minutes, vomited, and in a few hours

was again all right. Thereafter attacks became frequent.

Ophthalmological examination showed perfect vision, no contracture of the field of vision, no pupillary symptoms, nor scotoma. There were well advanced choked disc in the right eye, and slight swelling and blurring of the margin in the left eye. There was no disturbance of the extra-ocular muscles. A diagnosis of tumor cerebri was made. Predominance of attacks involving the left leg determined the opinion that the growth was located on the right side of the brain in the leg area a short distance from the longitudinal fissure.

A two-inch trephine was placed over the supposed lesion and when, by this means, a large button of bone was raised, a thickened bulging dura impinged upon the opening. The tumor underneath was  $1\frac{1}{2}$  inches in diameter, almost circular, and was quickly removed by simply nicking the healthy dura at the margin of the severed bone and running a pair of curved scissors around, excising it. A rapid operative recovery followed, as did also the complete relief from headache. The patient had a slight convulsion lasting a few seconds on the sixth day and the same in the third week following the operation.

Convalescence was slow because of an intestinal trouble. However, in a



year he grew stout and headache, except such as could be attributed to ordinary causes, never returned. After six years there has been no return of his former malady. The patient was kept

on anti-luetic and constructive treatment for two years.

The tumor proved to be an unusually large, circumscribed, and organized gumma.

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## Physiology, Hygiene and Public Health.

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*Conducted by Allison Drake, M. D., Denver, Colo.*

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### THE TREATMENT OF CANCER.

In delivering the Bradshaw lecture before the Royal College of Surgeons, London, Mr. A. W. Mayo Robson, D. Ss., F. R. C. S., said that the only etiological factor in producing cancer certainly known was local irritation; that at first the disease was not constitutional; and that the disease, though otherwise probably not communicable, was doubtless capable of distribution by contact and by inoculation. No hope of cure except by surgical means could at present, in Mr. Robson's opinion, be entertained. The various other treatments, such as electrical, photo-therapeutic, medicinal, etc., had all failed and were harmful to this extent that they often kept the patient from resorting to the only real cure—surgical procedure—until even that means was of no avail for effecting a permanent cure. Rodent ulcers had been effectively treated by some of the methods of treatment specified above but were not really malignant.

Mr. Robson spoke of a precancerous condition as the best time to operate if the cancerous bud could be recog-

nized, as, for example, in the breast. He had operated in 62 private cases of cancer of the breast, of which there had been a recurrence in 29 cases and 8 other cases could not be traced. Of the recurrences, 8 were after the lapse of the three years' limit. He had been successful in operating in cases of cancer of the stomach. One man's stomach had been almost wholly removed and the patient two months thereafter resumed business and had suffered no inconvenience and no recurrence of the disease, although four years had since elapsed. Many other similar cases were described. With regard to advanced cases, palliative operations were all that could do much to prolong life and relieve suffering.—*The London Daily Times*, December 2, 1904.

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### PHYSICAL EDUCATION.

In a lecture before a session of the National Federation of Head Teachers' Association at Cambridge, England, Sir Lauder Brunton discussed the merits of physical education (*London Daily Times*, January 6, 1905). A

teacher, he said, should impart mental, physical, and moral instruction. It was almost useless to attempt to instruct the ordinary adult upon the benefits to be derived from proper ventilation and exercise; but the children may be taught these lessons and thus the next generation of adults will have better ideas about the proper mode of living. Sir Lauder thought it a great misfortune that people were flocking in such numbers from the country to the already over-crowded cities. Within the last half century the urban population had thereby increased three times as rapidly as the rural. Something should be done to arrest this transfer of population. Particularly, landlords should afford greater home comforts to his tenants; but teaching the rising generation how to make home comfortable was most important. Furthermore, the teacher should especially teach the care of the teeth, the avoidance of promiscuous spitting, and the baneful effects of alcohol when habitually taken into the human system. He should impress upon the mind of the pupil that health to the poor man is of more importance than money in the bank to the rich.

The speaker placed a high estimate on the value of all sorts of games of ball for developing all forms of co-ordination and particularly the co-ordination of action of the muscles of the eye and arm. From the most ancient records of the Egyptians and from all subsequent history, it is known that games of ball have ever been universally popular and had doubtless been of incalculable value in developing the human race. At the present time provision for such sport should be made in all schools and all the pupils should be encouraged to participate in it.

A medical inspector should classify the children as to physical strength and the sports should be regulated in accordance with that classification. Little children should be taught marching and sticks with bits of ribbon should be provided for every child to increase the interest. But as mental and physical exercise were but lamely possible for children improperly fed as many school children were in consequence of ignorance as well as poverty, there should be courses of instruction in the art of cooking and the children should eat the food thus prepared, paying, if able, for the material used.

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### General Surgery.

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*Conducted by F. Gregory Connell, M. D., Salida, Colo.*

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#### UNUNITED FRACTURES OF NECK OF FEMUR.

In the *Annals of Surgery* for October, 1904, Leonard Freeman consid-

ers "The Union of Ununited Fractures of the Neck of the Femur by Open Operation." He says, "In spite of the disability often accompanying fractures of

the femoral neck, the union of the fragments by open operation has attracted but little attention, although it is feasible and seems to give fairly good results."

The choice of cases for operation is of the greatest importance. Advanced age is a contra-indication. The resisting powers deserve the most careful attention. The amount of the disability must be considered in connection with the age of the patient.

This open operation has been advised, at various times, for *recent* fractures.

An anterior incision is recommended, which begins a short distance below and external to the anterior superior spinous process of the ilium, and extends directly downwards 3 or 4 inches. It should lie just outside of the sartorius muscle. The dissection should be blunt, as far as possible.

The fragments are freshened by the removal of the interposed connective tissue. This must be cut away with scissors and it may be difficult. The bone is soft and friable and care must be exercised not to remove too much bone with chisel or curette, so as to avoid shortening.

The fixation is a difficult and important problem. Whatever method is adopted, the trochanter should be supported from behind, as it has a marked tendency to drop backward, thus producing displacement of the fragments and outward rotation of the limb. Simple extension and trochanteric support may be followed by union in many instances, but fixation by means of nails, screws, or bone or ivory pegs is better.

Without special consideration it would appear that perfect immobility of the pieces of broken bone could always be obtained by nails, pegs, or screws, especially the last mentioned. But this is not true, because the upper end of the femur often becomes so extremely soft and porous that the instrument of fixation will not hold.

Freeman recommends the use of a clamp which he has employed successfully in two cases of ununited fracture. It consists of three or four screws, which are inserted in a longitudinal line of holes drilled into the bone, their projecting ends being tightly held by two metal side clamps lined with strips of wood. The efficiency of the apparatus lies in the fact that the screws bury themselves in the wood as firmly as if screwed into it. Such an apparatus, having its foundation two or three inches down the shaft of the femur in solid bone, would certainly be more satisfactory than screws alone.

Temporary drainage through the anterior wound, is all that will be necessary. An additional posterior opening is not recommended.

About ten weeks in bed will be required in the usual case.

The results have been, on the whole, encouraging. There always remains, however, some shortening, varying from  $\frac{1}{2}$  to  $1\frac{1}{2}$  inches or more.

While Freeman's case is not a perfect recovery, the result has been a marked improvement.

Brief abstracts from 13 cases collected from the literature are appended.

In connection with this article upon the *treatment* of ununited fractures of the neck of the femur, attention might

profitably be called to the prevention of this non-union, i. e., the *prophylaxis*, as is seen in Ruth's paper before the 1903 meeting of the Western Surgical Association, entitled,

"DEMONSTRATION OF ANATOMICAL  
TREATMENT OF FRACTURES OF THE  
FEMORAL NECK,"

In which he calls attention to the fact that 6 per cent. of all fractures involve the neck of the femur and give as a result, non-union in the majority, with useless limbs. This renders the subject of enough importance to justify its consideration in the light of all the latest attainable information.

There is nothing to be gained by attempts to differentiate between intra-, extra-capsular, and mixed varieties, for, when not impacted, their management, to be successful, can differ in no important particular.

The displacing tendencies of weight and muscular action are the principal factors in preventing union and causing impairment of function.

That bony union has occurred in all varieties of fracture of the femoral neck is no longer denied by well informed medical men. That useful repair in the aged by the usual methods occurs in only a small percentage is recognized by all physicians and attested by cripples from this cause in all communities.

Perfect adjustment of the fragments must occur when traction is made in line with the normal axis of the femoral neck provided the capsular ligament is not almost or quite destroyed, together with the surrounding muscles.

The tendency is for the lower fragment to fall behind and then be drawn upward and inward, resulting in posterior displacement of the lower fragment. The action of the psoas and the iliacus is normally that of a flexor with neutral or internal rotation. When a solution of continuity occurs in the femoral neck they immediately become external rotators. They may also act in such a way as to force the soft parts between the fragments, rendering thereby bony union impossible unless the impediment be removed.

The method advanced by Ruth is as follows:

Patient is placed on the back. After making the diagnosis, the thigh should be flexed at right angles to the trunk, to relax the psoas and the iliacus and bring their line of action above the neck of the femur to prevent them from in any way forcing soft tissues between the fragments. Extension must now be made while an assistant makes traction outward on the upper end of the femoral shaft, and raises the trochanter major to the same level as its fellow. This extension is accomplished by means of the ordinary Buck's extension with from 15 to 25 pounds.

Binders' board or other material should now be moulded to the internal, anterior, and posterior aspects of the upper part of the injured thigh, and around this a broad band of muslin or other material is extended through a pulley at the side of the bed on a level with the highest point of the iliac crest, projecting a sufficient height above the bed and carrying sufficient weight to maintain the trochanter major as prom-

inent as the one on the opposite side, and to overcome the posterior displacement and the tendency to eversion.

The knee should be flexed every 4 or 5 days to prevent ankylosis.

The counterextension is made by the weight of the patient, by raising the foot and side of the bed.

The number of cases treated by this method so far reported is 52. Excluding four cases in which treatment was abandoned within four weeks, death from intercurrent malady, or in which the injury is too recent to report, gives good servicable limbs in 100 per cent.

F. G. C.

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## Gynecology and Obstetrics.

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*Conducted by O. M. Shere, M. D., Denver, Colo.*

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### ADHESIONS OF THE SPLEEN AND UTERUS.

Ivanyo (*Zentralblatt Gynec.*, 1904, No. 37) reports the case of a patient, aged 38 years, who had formerly suffered from malaria. She had a retroflexed uterus. Attached to the left side of the fundus was a large, smooth tumor, the shape of the spleen. The diagnosis of dermoid cyst was made, and possibly wandering spleen. The latter was confirmed under anæsthesia. On opening the abdomen the enlarged spleen was found to be firmly adherent to the fundus uteri and omentum, with torsion of its pedicle. The adhesions were separated and ventrofixation was performed, the spleen being subsequently supported by a bandage.

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### ADNEXAL DISEASE DUE TO TYPHOID FEVER.

Dinmoser (*Ibid.* No. 40, 1904) reports a case of tubo-ovarian abscess in a virgin who had had typhoid fever six months before. The characteristic bacilli were found in the pus. A sim-

ilar case was reported by Koch, who inferred that the infection came through the intestine. The writer believes that the bacilli make their way through the lymph channels in the intestine to the surrounding connective tissue and thus reach the ovary and tube, though the possibility of hematogenous infection can not be denied.

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### VALUE OF ABDOMINAL HYSTERECTOMY FOR CARCINOMA UTERI.

Wertheim (*Wien, Clin. Woch.*, XVII. No. 28) demonstrated his claim made four years ago, in which he advocated the more radical extirpation of the pelvic tissues in doing hysterectomy for carcinoma. He now announces that his results are incomparably better than before the more extensive operation was employed.

Out of fourteen cases, nine are free from recurrence after four years; of thirty-one, nineteen are free after three years; of forty-three cases, twenty-six are free after two years. Since adopting this method, the operability of all

cases has been increased from 29 to 51 per cent.

Wertheim never operates through the vagina, except in cases of incipient cancrroid of the vaginal portion of the cervix, but believes in doing the abdominal operation and removing all of the glands possible.

Recurrence was noted in less than one-third of the cases in which the removed glands showed no evidence of metastasis.

The most enthusiastic of the advocates of vaginal hysterectomy can hardly show results comparable to Wertheims.

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#### PYOSALPINX.

Bishop (*Lancet*, Sept. 17, '04) reports in detail twenty-three cases of pyosalpinx, six of which ended fatally. In the majority of cases some direct connection between traumatism during labor or the poison of gonorrhea could be detected, and a long period of invalidism traced between the date of infection and that of operation, during which symptoms were more or less constantly present. It is far safer to open these acute abscess cavities through the vagina, thus avoiding the danger of infection of the peritoneum. Shock is one of the greatest dangers to be feared, and it is often warded off by subcutaneous injection of warm saline solution. Loss of body heat is a very potent factor in the causation of shock. The author has had a rubber bed constructed which is made up of a succession of transverse rubber cylinders containing hot water. This has proved

to be light, easily managed, and very effective.

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#### OPERATION FOR CONGENITAL ABSENCE OF VAGINA.

Isaacs (*Med. Record*, Nov. 19, '04) reports the case of a patient, aged 26, married three years, who consulted him regarding inability to have coitus. She never menstruated, never had any vicarious bleeding nor periodical pains. Coitus was impossible, and attempts were painful, though she claimed she had sexual desire, and gratification from the attempt.

On examination her general appearance and development is that of a normal female. Careful digital palpation disclosed no evidence of the presence of the uterus and ovaries. A mere fibrous band running across the pelvis from side to side between the bladder and rectum was the only thing found—very likely the remains of undeveloped Mueller's ducts.

The operation consisted first in making a circular incision through the mucous membrane, beginning just below the urthra in front, crossing over to and including almost the whole labia minora on either side and from there well outside the vaginal orifice and on to and across the perineum. Its attachments were loosened and a glass dilator inserted, which pushed the ring up fully three inches, the gap of raw surface was covered by Thiersch grafts. The dilator was kept inside for 18 days, being removed for cleansing about four times. The patient made an uneventful recovery, and three months after op-

eration examination showed a canal of sufficient calibre to admit two fingers for two and a half inches. The patient stated that coitus was natural.

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## SOCIETY REPORTS.

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### The Denver Clinical and Pathological Society.

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The regular monthly meeting of The Denver Clinical and Pathological Society was held in the Jackson Block, February 10, 1905, the president in the chair. The members were the guests of Drs. Hall, Hopkins, Waxham, Blaine and McNaught.

The records of the previous two meetings were read and approved.

*Dr. Hill* exhibited a specimen of milky urine passed 18 hours after the patient had been seized with intense pelvic pain and symptoms of collapse. Later she was found to be suffering from extra-uterine pregnancy. The urine contained albumen, and the microscope showed the opacity to be due to fat drops. It also showed the presence of fibrin. Discussed by Dr. Sewall.

*Dr. Childs* exhibited (1) a skiagraph of a head showing a metal tube in the antrum of Highmore and filling in the teeth. (2) A skiagraph of a comminuted fracture of the femur showing a spicula of bone interposed between the ends of the shaft. (3) A skiagraph of an extra-capsular fracture of the great trochanter.

*Dr. Hopkins* exhibited a skiagraph of a gunshot wound of the head, the bullet passing through the right frontal lobe and locating itself in the occipital lobe, hemiplegia following.

*Dr. Wetherill* exhibited a device made from rubber tubing for the purpose of uterine injection and drainage.

*Dr. Beggs* exhibited a heart showing total obliteration of the pericardial sack, and the lungs of the same subject showing broncho-pneumonia of the upper lobe of the right, with pleuritic effusion of both sides. The kidneys were nephritic and the spleen infected.

*Dr. Hershey* made a further report on his case of Raynaud's disease, general gangrene resulting after amputation of the right toe, the chief feature of the case being gangrene of the venous system and solidification of the right lung, death resulting two years after the first symptoms. Discussed by Dr. Sewall.

*Dr. Hickey* reported a case of right hemiplegia with cardiac complications. Discussed by Drs. Hall, Hillkowitz and Sewall.

*Dr. Edson* reported a case of true angina pectoris previously treated by an osteopath for a "dislocated rib." Discussed by Drs. Stover, Wetherill, and Bergtold.

*Dr. Blaine* reported two cases of urticaria, (1) in a physician who suffered an intense attack and obtained

relief only after the use of a spray of ethyl chlorid, and (2) a case of acute gastric indigestion accompanied by urticaria, impaired vision, and transient aphasia. Discussed by Drs. Hershey, Sewall, Childs and Hopkins.

*Dr. Levy* discussed the use of anesthetics in operations for the removal of

adenoids and tonsils, and stated that in a certain percentage of cases he had found that the work could be done without anesthesia. Discussed by Dr. Waxham.

The society then adjourned. Members present 23, visitors 2.

F. W. KENNEY, M. D., Sec.

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## BOOK REVIEWS.

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VON BERGMANN'S SURGERY. A System of Practical Surgery. Drs. E. von Bergmann, of Berlin, P. von Bruns, of Tubingen and J. von Mikulicz, of Breslau. Edited by William T. Bull, M. D., Professor of Surgery in the College of Physicians and Surgeons (Columbia University), New York. Complete work now ready, in five imperial octavo volumes, containing 4220 pages, 1976 engravings and 102 full-page plates in colors and monochrome. Sold by subscription only. Per volume, cloth, \$6.00; leather, \$7.00; half morocco, \$8.50, net. Volume V just ready. 789 pages, 354 engravings, 23 plates. Lea Brothers & Co., publishers, Philadelphia and New York.

This volume completes the most important System of Surgery that has recently appeared. The following subjects are very ably and thoroughly discussed by the authors in charge: Malformations, injuries and diseases

of the pelvis, the anus and rectum, the urethra, the penis, abnormalities, injuries and diseases of the kidneys and ureter, the bladder and prostate, the scrotum, testicles, vas deferens, and seminal vesicles.

Aside from certain differences in operative methods from those pursued by English and American surgeons, the book is very practical and instructive. Especially valuable to the surgeon will be Schede's article as to the examination of the kidney and ureter, which is comprehensively outlined and graphically presented. The chapter on surgery of the rectum by Prof. Steinhall is excellent and brought up to date.

As previously mentioned, the great value of this work as a whole lies in the practical and clinical character, and the surgeon, as well as the general practitioner who has occasional surgery to perform, will find this System of Surgery a complete working library on the subjects treated, and therefore should not be without it. O. M. S.



# The Colorado Medical Journal

AND

## WESTERN MEDICAL AND SURGICAL GAZETTE

*A Scientific Medical Journal, Devoting Special Attention to Tuberculosis and Climatology—A Journal of Science, of News, and of Medical Lore.*

VOL. XI.

DENVER, COLORADO, APRIL, 1905.

No. 4

### ORIGINAL COMMUNICATIONS.

#### **A Review of the Vascular Anatomy of the Stomach, with Reference to Bleeding from that Organ.**

By F. GREGORY CONNELL, M. D., Salida, Colo.

Attending Surgeon D. & R. G. R. R. Hospital; Consulting Surgeon St. Vincent's Hospital, Leadville.

The stomach receives its blood from the abdominal aorta by means of the coeliac axis and its component branches, the hepatic, gastric, and splenic arteries. The coeliac axis does not supply the stomach exclusively, but also furnishes the liver, pancreas, duodenum and spleen with blood. In this way, the vascular supply of the stomach is made much more complicated than is that of the intestine, though the general plan, that of arches, is quite similar for both structures.

The gastric, or coronary, artery enters the lesser omentum at the right side of the oesophagus, where it anastomoses with the oesophageal arteries and portions of the splenic. After surrounding the cardiac opening, it passes from left to right along the lesser curvature, giving off branches to both the anterior and posterior walls, and communicating, finally, at the pyloric end

of the lesser curvature, with the pyloric branch of the hepatic artery. The gastric artery supplies the central portion of the lesser curvature and the cardiac opening of the stomach.

The Hepatic Artery—as the name implies—supplies the liver and sends two branches to the stomach, the pyloric and the gastro-duodenalis.

The hepatic artery is sometimes given off from the abdominal aorta as an independent branch, distinct from the coeliac axis.

The pyloric branch descends from the hepatic near the right extremity of the lesser omentum, meeting the lesser curvature near the pylorus, and passes from right to left to join the gastric artery. In this way it completes the arch of blood vessels along the lesser curvature. The vessels will be found here, and also along the greater curvature, within a triangular space be-

tween the two layers of the serosa, which surround the stomach and unite to form the omenta.

The gastro-duodenalis branch passes behind the pylorus, giving off branches to the stomach and pancreas, and at the lower border of the stomach it divides into two, the gastro-epiploica dextra, and the pancreatico-duodenalis superior.

The gastro-epiploica dextra extends from right to left along the greater curvature, at about the middle of which it unites with the gastro-epiploica sinistra, a branch of the splenic, so forming a vascular arch at the greater curvature, at the origin of the great omentum. Branches are given to both the dorsal and ventral surfaces of the stomach, and also to the great omentum.

The pancreatico-duodenalis superior passes down between the duodenum and the head of the pancreas, to unite with the pancreatico duodenalis inferior, a branch of the superior mesenteric artery. These stomach branches of the hepatic artery supply the greater and lesser curvature, and the anterior and posterior walls of the pyloric portion of the stomach.

The Splenic Artery passes between the pancreas and the stomach to the spleen and gives branches to all of the organs. Its branches to the stomach are the Vasa Brevia, and the Gastro-epiploica Sinistra. The Vasa Brevia, or gastric branches, are from seven to twelve in number and pass through the gastro-splenic omentum to be distributed to the fundus and the greater curvature of the stomach, where they

anastomose with the gastric and the gastro-epiploica-sinistra arteries. The Gastro-epiploica Sinistra runs from left to right along the greater curvature, meeting and anastomosing with the gastro-epiploica dextra, of the hepatic artery. These branches of the splenic artery supply part of the greater curvature and the cardiac extremity.

To recapitulate and attempt to simplify an apparently very complicated blood supply, it is found that the scheme of arterial arching and communication of the intestine is in the stomach, imitated as closely as the increased demand for blood will allow. In the intestine, the supply is distributed from the mesenteric line. Transverse branches proceed from here toward the opposite, the fundal, line, leaving this part of the intestine the most poorly nourished. The gastric supply, owing to the increased area, is received from two distributing points, one at each curvature, which correspond to the mesenteric and fundal lines of the intestine. From these two vascular arches, branches are given off to both the dorsal and ventral aspects of the stomach, ascending from the greater curvature, and descending from the lesser. So in the stomach the most poorly nourished portion of its wall is to be found midway between the curvatures on either surface. These points are of importance, for instance, in deciding as to the position and the direction of a proposed incision into the stomach wall.

The similarity between the blood supply of the intestine and the stomach will be carried still farther by not-

ing the fact that one branch of the gastric vascular arches communicates with a branch given off from the aorta on a higher level, and that the other communicates with a branch given off from the aorta at a lower level. Or, to express it semi-schematically:

Communication with superior branch of aorta ..	{ Gastric artery and Aortic oesophageal artery.
Arch at lesser curvature of stomach .....	{ Gastric artery and Pyloric artery (branch of hepatic).
Arch at greater curvature of stomach .....	{ Gastro-epiploica dextra artery (branch of hepatic). Gastro-epiploica sinistra artery (branch of splenic).
Communication with inferior branch of aorta ..	{ Pancreatico-duodenalis superior (branch of hepatic). Pancreatico-duodenalis inferior (branch of superior mesenteric).

The finer ramifications and the ultimate distribution of these blood vessels is far from simple. As has been noted, they surround the stomach at its two curvatures, beneath the serous covering. From here they extend upward or downward, as the case may be, and, as they approach the middle area of the dorsal or ventral wall, they grow gradually smaller, owing to the giving off of numerous branches. These branches pass directly through the muscularis, to which, in passing, they give off some few arterioles. Upon reaching the submucous layer, they divide into smaller vessels and form the submucous plexus, from which the mucosa is supplied and, to a smaller extent, the muscularis. By far the greater proportion of the arterioles given off from this submucous plexus pierce the muscularis mucosae, and, by again branching freely, form minute plexuses between the tubuli of the mucosa. Here the blood is deprived of its oxygen and the secretory function of the stomach is exercised.

This arterial plexus is connected

with a similar network of veins by numerous capillaries. These veins pass directly through the mucosa, and form reticuli at the base of the glands. From here the venous blood is carried directly through the muscularis mucosa to the submucosa, where a large venous plexus is formed. From here, the returning blood passes through distinct channels, veins proper, into the vena portae, or some of its radicals.

The veins of the stomach are as follows:

**Splenic**—The splenic vein receives the blood from the fundus and left extremity of the stomach. It is formed by the combining of the vasa brevia veins and the gastro-epiploica sinistra vein. After receiving branches from adjoining viscera, the splenic vein unites with the superior mesenteric vein to form the Portal vein.

The Gastro-epiploica Dextra vein empties into the superior mesenteric vein just before the junction of that vessel with the splenic to form the Portal.

The other veins from the stomach enter directly into the portal vein itself.

The Pyloric vein corresponds, in general, with the distribution of the artery of the same name, and terminates in the Portal.

The Gastric, or Coronary, vein begins near the pylorus on the anterior wall, extends to the cardia and returns along the lesser curvature to enter the portal just above the entrance of the pyloric vein.

Willson has called attention to the difference in the venous drainage of the cardiac and the pyloric extremities of

the stomach. The cardiac is provided with ample and abundant venous outlet, the pyloric end has a much smaller outlet, in the pyloric and the right gastro-epiploica veins. The former enters the portal vein almost at a right angle, and the latter joins the superior mesenteric under the same angular disadvantage.

All these veins and other tributaries of the portal vein have an especially marked musculature, but the presence of valves has been an open question for some time. Their presence in some of the lower animals has been demonstrated, but in mammals and in man, has not been accepted.

The work of Hochstetter in 1887 and of Bryant in 1888 have added materially to our information upon this subject. Bryant, in his work emanating from the Anatomical Department of Harvard Medical School, in 1888, concludes in part as follows: "These observations show that at birth the

valves on the intestine are quite numerous in man, and at this age they are more abundant on the large intestine. Also, that in a few months, the valves either disappear or become incompetent with few exceptions. In adult man there are usually a few valves, and these are more abundant in the small intestine, especially in superficial tributaries of the *venae breves*. These valves are more numerous in the jejunum and disappear as we approach the caecum."

But in Gerrish's Anatomy we find: "The veins of this system have no valves."

From this brief and cursory review of the blood-supply and distribution of the stomach, it will be seen that hemorrhage as a complication of gastric or adjacent pathology would naturally be of more or less frequency. The wonder is that gastric hemorrhage is not more common than it would seem to be from the existing literature.

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## Light—Its Therapeutic Importance in Tuberculosis as Founded Upon Scientific Researches.

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By J. MOUNT BLEYER, M. D., F. R. A., M. S., LL. D., New York City.

Chairman on Light and Electricity. American Congress on Tuberculosis, held at St. Louis, October, 1904.

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(Continued from the April Number.)

The determination of the chemical principle of the solar rays, or actinism, permeating the media employed required more exact attention than the other phenomena.

The experience of many years en-

ables me now to state that we are not acquainted with any transparent medium which is absolutely opaque to actinism. Although nitrate of silver, or indeed any of the salts of silver, remain unchanged behind yellow glass

and fluids, yet, chlorophyl is deoxidized and turned yellow by the chemical principle which is enabled to permeate them. Upon all those bodies on which light exerts a direct and determinate influence, as upon the organized compounds, we find that the changes due to actinic power are but slightly interfered with, whereas upon all those inorganic bodies which undergo a change when exposed to the solar chemical radiations—that change being entirely due to actinism—light acts as a powerful interfering agent. The conditions under which these antagonistic forces—light and actinism—operate upon each other are unknown to us, but it is certain that every combination of an inorganic salt with an organic body presents a different scale of action.

Nitrate of silver uncombined with organic matter undergoes no change by the influence of any portion of the solar spectrum, or of white light; spread it on a paper, or combine it with gum or gelatin and all that portion of the spectrum above the green ray blackens it; and if we combine this salt with unstable organic compounds; the blackening is found to take place, eventually, under every spectral ray. The other salts of silver and metallic salts in general are affected in precisely the same manner. From a knowledge of these facts it became evident that some means must be devised for ascertaining, as correctly as possible, the entire quantity of this chemical principle, passing every particular medium, without which knowledge any result would be almost valueless. In every instance,

therefore, the influence of the modified radiations was determined: firstly, upon the most sensitive silver salts; secondly, upon organic bodies, as the colored juices of leaves and flowers and on chlorophyl; and thirdly, upon combinations of the organic and inorganic materials. In this way I have reached a degree of correctness which has not been hitherto attained, and the results of the experiments have consequently a higher value.

It has been repeatedly stated that seeds would not germinate under the influence of light, deprived of that principle on which chemical change depends. There is some difference of opinion raised on that point by several, and those numerous experiments made by Gardner with the prismatic rays themselves have unfortunately furnished us with no knowledge of a degree of stability which he was enabled to ensure for the prismatic rays with his heliostat. Dr. Gardner's researches corroborating those of Dr. Draper are without doubt valuable; but, for the reason which already is stated in this article, I must contend that we do not secure a separate action of light and actinism by the prism so effectually as by the use of absorbent media. It has been shown by Mr. Hunt, after many years of practical and convincing observation, "that light is injurious to germination and that Dr. Gardner's experiments must have been deceptive." Mr. R. Harkness<sup>1</sup> in reply to Dr. Gardner on this point says:—"We know, both from observations of Gugenhaus and Sennebier, as well as

<sup>1</sup>*Phil. Magazine*, Vol. XXV, N. S., p. 340, 1844.

from daily experience, that the absence of solar light is one of the conditions almost necessary for the germination of seed, and consequently we should not expect that ray in which the maximum of light is found to facilitate germination, but, on the contrary, as in Mr. Hunt's experiments, to retard it". There are other objections made from a physio-chemical point of view. Many experiments toward clearing up this point were made by Mr. Hunt, which gave satisfactory evidence that light deprived of the principle or power of chemical action arrests the development of the plant by preventing the vitality of the germ from manifesting itself.

Although the visible sign of germination is the process of chemical combination of the carbon with oxygen and hydrogen, yet the power influencing this change is of an occult character, though evidently dependent on some external excitation which Mr. Hunt has proved not to be light, or the principle producing the phenomena of color.

The question of importance which Mr. Hunt also raised and proved true was to ascertain if the chemical principle of the solar rays produced any acceleration of the germinative process. He found that the periods of germination differed in each variety of seeds, under the conditions to which they were exposed, yet in every instance the seeds influenced by actinic radiations germinated in one-half the time which those seeds placed in the dark required.

Several arrangements were made for the purpose of ascertaining if the influence of the chemical rays was confined to the surface of the soil, or if it

extended below it. The result was, that Mr. Hunt obtained the most satisfactory evidence that, under the influence of the rays which passed the blue glasses, germination was set up at a depth below the surface, at which under the ordinary conditions it did not take place. These facts go to establish, and in addition they prove, that there exists an influence which is always associated with light and which has the property of accelerating the process by which the embryo swells, bursts through its integuments, sends its radicle into the soil, and shoots its cotyledons upwards towards the light.

The condition of the seed in this process is tolerably well understood. The seed, a highly carbonized body, is placed in a position by which its starch ( $C_{12}H_{10}O_{10}$ ) is changed into gum ( $C_{12}H_{11}O_{11}$ ) and sugar ( $C_{12}H_{14}O_{14}$ ). Here we have a large absorption of oxygen; and experiment has shown that carbonic acid ( $CO_2$ ) is formed. The whole process is the same in character as the blackening of a solution of nitrate of silver holding organic matter, in the sunshine. Without the organic body the silver salt remains unchanged; with it a combination with the oxidized carbon is effected at the same time as the organic particles take the oxygen from the oxide of silver in solution. All this is known to be entirely dependent on actinic power and independent of luminous action, and the whole process of conversion in the seed is of a like character.

Here is another singular fact. If the young plant continues to grow under the influence of the rays which have

permeated the blue media employed in the experiment, it will for some time grow with great rapidity, producing, however, succulent stalks which soon perish. Even in the earliest stages of the growth it will be found, that the plants grown in the full sunshine, or under the influences of yellow or red media, representing the luminous and calorific principles, give a larger quantity of woody fiber and less water than those grown under actinic influence.

Another true explanation is further proved by the fact that in the practice of planting shoots the use of blue media is highly advantageous. It appears to increase the tendency to the development of roots, and it is satisfactory to learn that some gardeners have, without any knowledge of the cause, employed cobalt-blue glasses to aid in the "striking of cuttings." Dr. Lindley<sup>1</sup>, referring to the experiments of Dr. Dauberry, seems disposed to regard the effects described as due to the absence of light merely; it is however, evident that the chemical principle of the solar beam materially assists in the development of new roots from cuttings. The formation of woody fiber depending on the secretion of carbon from the carbonic acid absorbed by the leaves, and decomposed, by some functional power of the plant, under the influence of external excitement, it has ever been considered important to determine if this was due to the luminous rays or to any others.

The experiments of Sennebier<sup>2</sup> went to prove that plants decomposed the

carbonic acid they absorbed by the leaves much more readily under the influence of the violet rays than any others. This power of decomposing carbonic acid under the influence of the solar rays is a function due to some vital principle; which proves the position correctly taken by Matteucci<sup>3</sup>:—Different plants not only decompose carbonic acid at different rates, but they exhibit greater or less sensibility to luminous influence.

The conclusions from numerous experiments induced several scientists to draw these facts:

That the luminous principle of the sun's rays is essential to enable the plants to effect the decomposition of the carbonic acid of the atmosphere and form their woody structure.

That some plants require more light than others to effect this decomposition.

It may be inferred from all the results obtained by actual experiments that the decomposition of the carbonic acid by plants under the agency of light is not a simple chemical operation, but the result of an exertion of the vital principle of the growing plant, which requires the external stimulus of light to call it into action.

I have made numerous experiments and have every reason to believe that it will be found that there is as great a difference between the effects produced on growing plants by the prismatic rays, as we know to be the case in photographic preparations;—the maximum effects altering, perhaps, for every variety of plant. It was these known

<sup>1</sup>*Theory of Horticulture*, p. 215.

<sup>2</sup>*Mem. de Phys. Chim.* Tom. II, p. 55.

<sup>3</sup>*Supplement a la Bibliotheque Universelle de Geneve.*

facts that led me and others to subject the various living organisms in culture fluids, plates, etc., to the prismatic rays, so that some definite conclusions could be arrived at, as to their power, individual and combined, over their growth, development, sterility, bacteriocidal value, etc. To this I shall again refer in this work.

A number of comparative experiments have been made with the unabsorbed prismatic rays, with a view to the settlement of several points at issue. The method pursued has been to place leaves in small tubes filled with water impregnated with carbonic acid, and to place these tubes across the rays formed by a very excellent flint-glass prism. The results have varied with every experiment.

By placing a small sprig covered with leaves in the tube we get the largest quantity of gas in one ray; if we remove the leaves from the branch, we shall then get the most gas under another ray. No two plants as far as I am aware, gave the same quantity of oxygen in the same time, under the influence of the same ray, and the age of the plant most materially alters all the effects, the same plant at one age giving evidence of being excited most readily by the blue rays, and at another by the yellow or the red rays. Moreover, I am satisfied that by removing a member, whether a branch or a leaf, from the plant, we give a shock to the living system which prevents our obtaining any results which shall actually represent the true conditions of the growing plant. On this point the

experiments of Matteucci<sup>1</sup> are most satisfactory.

In all experiments on the human being and on plants, it must be borne in mind that we are dealing with an organized body endowed with peculiar vital functions. As these are ever liable to derangement from numerous causes which are almost beyond the reach of our examination, it is only by a great number of crucial experiments that we can arrive at an approximation of the truth. It is, however, evident, from careful comparison of the results obtained, that *light* as distinguished from *heat* and *actinism*, is the principle on which the secretion of carbon and the evolution of oxygen by plants depends.

De Candalle succeeded in producing the green color of the leaves by the strong light of lamps, which we know give out a much larger quantity of yellow rays than any others; consequently it was inferred that light was necessary to the production of chlorophyll. Dr. Dauberry, however, obtained no result from the action of incandescent lime which emits a much purer white light, producing also chemical effects in a marked manner.

Dr. Lindley<sup>2</sup> refers the formation of the coloring matter of leaves to "the effect of decomposed carbonic acid and exhaling oxygen" by the agency of light, the intensity of color being in general "in proportion to the decomposing cause, that is to say, to light."

Some very interesting experiments are found recorded by numerous men who have tried to show that to the

<sup>1</sup>Cimenot Juillelt et Aout, 1846.

<sup>2</sup>Theory of Horticulture, p. 86.



different rays in the spectrum is ascribed the office of different action. One important experiment was followed up by means of a heliostat being placed outside of a window from which was directed a pencil of light upon a flint-glass, equilateral prism; the prismatic spectrum was received in the dark chamber of an ordinary photographic camera, the place of the lens being occupied by a diaphragm which admitted the passage of the spectral image only. It was found, however, that the spectral image did not remain under the best conditions for more than three hours at a time. However, over every part of the spectrum giving light, the color recognizable by the unaided eye, the leaves of seedlings of the common cress, mustard, mignonette, and peas, which were in an etiolated state, became, after a longer or shorter time, green. In these as in other experiments, it was found that every variety of plant appeared to be influenced by different rays. It must be, however, observed that the influence was always most decided between the limits of the mean orange and the mean blue rays, and that it took much longer to green plants in the red than it did in the blue ray.

Such are the results found recorded wherever I have hunted for evidence to prove my position in the spectrum work. Though some objections have been urged against the use of colored media in experiments, I am, after years

of experience in the use of media, convinced that there is no other way of obtaining correct results without them. All the colors of the spectrum are merely modifications of the intensity of luminous power and it has been shown that light, heat and chemical action or actinism, are common to every ray, the difference being only proportional. Therefore, because an effect is produced in the yellow ray, we have no evidence that light alone is the agent; it may be due to the combined influence of light and the other principles. We have the means of analyzing with great correctness the permeability of colored media, and we can with considerable facility, by increasing the color or thickness of a fluid medium, produce almost any order of radiation, which may be maintained for days or months, in a constant character. For instance, a yellow medium does not imply the use of a yellow light or a red one the passage of red rays only, but a well regulated, yellow medium will give the most light with the least quantity of actinism, and a blue one, the largest amount of actinism with the least quantity of light. It will now be understood that I place more confidence in the results obtained under colored media than any which can be obtained with the prismatic spectrum upon growing plants and other experiments in physiological, bacteriological, and photo-therapeutics, etc.

(TO BE CONTINUED.)

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## EDITORIALS.

### SOME FACTS ABOUT RADIUM.

Radium, which is, contrary to current opinion, a very prevalent element and to be found in ordinary tapwater, the soil of the ground, wheat flour, etc., confers radioactivity on its associate substances though they may not be intrinsically radioactive. The amount of energy given out by radium is sufficient to raise the temperature of its mass one degree centigrade every 36 seconds. This emission of energy is the so-called radioactivity and is due only to those particles of radium that are in process of "breaking down."

Radioactivity can be detected by electrical means even when the particles are emitted at the rate of only one per minute; for the most conspicuous property of radioactive substances is that they make the air around them a conductor of electricity.

Four kinds of radiations are known to be given off by radioactive bodies and have been named, respectively, the alpha, beta, gamma, and delta rays. The last were discovered only recently, by Professor J. J. Thomson, of Cambridge University. The alpha rays contain most of the energy given off

by radium and consist of positively charged particles, called corpuscles, each of which is of a mass twice that of an atom of hydrogen. The particles constituting the beta rays are negatively charged and move with a velocity comparable to that of light. The mass of a beta ray particle is one two-thousandth that of a particle in an alpha ray. The gamma rays are strongest in penetrating power and can pass through a plate of lead six inches thick. They are exactly analogous to the Roentgen rays, and are uninfluenced by the strongest magnetic and electric fields. The delta rays have almost no penetrating power and can pass through only a few millimetres of air at ordinary pressures, which probably accounts for the lateness of their discovery. They are given off by an alloy of sodium and potassium under the influence of light and probably where light is absent. Rubidium yields these delta rays very freely and it is thought that substances not classed as radioactive may also emit them.

The most delicate method of detecting a radioactive substance is properly described as follows: "Suppose a gas to be in process of ionization at a definite rate. The number of electrified particles cannot increase indefinitely, because simultaneously with their production there is a destruction of some of them going on in consequence of the union of positively and negatively electrified particles to form non-electrified wholes. Expose the gas while undergoing ionization to an electric field and some of the ions will be removed by being driven against the plates con-

nected with the battery, and the stronger the force the larger the number that will suffer this fate. Now the number of ions produced by the radioactive substance in a given time is not indefinitely large and therefore the conducting power of the gas will reach a limit beyond which it will be unaffected by any increase in the strength of the electric field. The current passing will thus reach a constant value and is then known as the saturation current. The measurement of this current reveals the immediate presence of any radioactive substance." A. D.

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#### THE GENTLE ART OF SAYING NOTHING.

Book reviews and testimonials sometimes form quite interesting reading even though the subject of them may not be so attractive. Many a book review and many a testimonial is given in such a manner as to convey no idea as to the value of the work. Others, again, are carefully critical exegeses. They, however, are the exception.

We have lately received the prospectus of a work on long living, some of the commendations of which have attracted our attention and are really too brilliant gems to be allowed to pass without notice; for example, the following:

*Levi P. Morton*: "I am greatly interested in 'The Art of Living Long.' I am now in my eightieth year." We should think he might be interested in such a subject at his period of life. Who would not be?

*Richard A. McCurdy*, President Mu-

tual Life Ins. Co., of New York: "I was already somewhat familiar with the life of Cornaro; but your work revived my recollections." Presumably any one reading, say, "The Life of George Washington," would have some of the incidents he had long been acquainted with recalled to his mind.

*William Dudley Foulke*: "An aunt of mine, who led the 'Cornaro' life, lived in excellent health up to the age of eighty-nine, and until her last illness had not seen a doctor in fifty years."

*Admiral Dewey*: "Very interesting, and if I learn from it how to prolong my life, I shall be very grateful to you." Now here is a very frank statement which will scarcely challenge belief.

*Daniel Coit Gilman*: "Although the work of Cornaro is famous, I am sure there are many septuagenarians like myself who have never read its contents." He does not even state that reading the work was necessary for this acknowledgment of general ignorance on the part of the aged.

*Julian Hawthorne*: "Cornaro is an old pal of mine and it was a capital idea to write him up."

*Samuel L. Clemens* (Mark Twain): "I am very glad to have 'The Art of Living Long.'" We wonder, did Samuel buy this copy either in the open market or as the result of the wiles of an enterprising book agent, or was it a presentation copy? In the latter case his gratitude may be understood very readily.

*Jonathan P. Dolliver*, U. S. Senator: "My father is greatly interested in the book. Nearly ninety years old,

he is on the fair road to duplicate the career of Louis Cornaro, the famous centenarian whose precepts on the art of living you have immortalized." We assume from this that Dolliver did not care for the work himself especially, but was simply writing in the capacity of private secretary to his father.

*Bishop McCloskey*, Louisville: "Who knows, it may help to land me, if not into, at least somewhere in the neighborhood of the nineties." Who does know? Some flippant person might even inquire: "Who cares"?

*Monsignor Dennis J. O'Connell*, Rector Catholic University of America: "The beautifully gotten up volume of Cornaro, with essays added from Addison, Bacon and Temple, will be an addition to our library." Why, certainly. So would Ingersoll's "Mistakes of Moses," Paine's "Age of Reason," "The Decameron" or any other publication which he might place on his library shelves. Possibly he might even peruse some of them with greater interest.

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## THE DEATH OF DR. FRANK P. DULIN.

Dr. Frank Dulin, police surgeon of the City and County of Denver, was shot Sunday, March 12, while on duty and responding to an official call, by a maniac who had already killed two of his neighbors. He died from the results of his injuries on March 15 and was buried the following Sunday. The outpouring of citizens to the services was a most eloquent tribute to the friends he had created and the love and

affection in which they held him. Quiet and unassuming as he always was, the position he held in the hearts of the people was a revelation to even those who knew him best. Greater reward one cannot desire.

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## PROGRESS OF MEDICINE.

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### Diseases of the Digestive Tract.

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*Conducted by A. E. Engzelius, M. D., Denver, Colorado.*

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#### LACTIC ACID IN THE STOMACH.

In an article entitled "An experimental study of lactic acid formation with special reference to the stomach" (*American Medicine*, January 7, 1905) Palier details his researches and experiments on this subject which he believes should be of interest not only to those who pay special attention to gastrointestinal diseases, but also to the general practitioner. The results of this experimental research are summarized somewhat as follows:

The presence or absence of lactic acid in the stomach contents is positively not pathognomonic of any particular affection, and should not be relied upon for making a diagnosis of cancer, as is often done. A number of fine tests, both qualitative and quanti-

tative, which have been devised for the detection of small quantities of lactic acid in the stomach contents are useless. If the acid exists in small quantities, it is absolutely of no significance; if present in large quantity it can easily be detected by the ordinary tests.

The fear of giving sugar with the test-meal is entirely without foundation for the solution of cane or even grape sugar gives a very slight acid reaction at the end of an hour. To allow the patient two pieces of sugar with his tea will in no way mask the test. The use of lactic acid as medication in any case of indigestion is absurd, because the very large dose required for an antiseptic effect should necessarily be productive of great harm.

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A bill has been introduced into the Pennsylvania legislature for the appropriation of \$300,000 to the free hospital for poor consumptives at White Haven. Of this sum \$100,00 is for the erection and equipment of new buildings to increase the capacity of the hos-

pital to 300 beds. Another hundred thousand dollars is to secure a site to erect a building for the accommodation and care of cases further advanced than accepted at White Haven. The third hundred thousand dollars is for the maintenance of the hospital at White Haven.

## Neurology and Alienism.

*Conducted by B. Oettinger, M. D., Denver, Colorado.*

### EPILEPSY.

Dr. A. A. Esher (*Medicine*, Vol. 2, No. 3) defines epilepsy as a paroxysmal neurosis characterized by attacks attended with derangement of conscience or motor co-ordination with or without convulsions. The underlying factors are at present unknown.

Four types of epilepsy may be recognized, viz., major, minor, focal, and psychic, and these may be variously combined in the same subject. Only the last two need be defined. In focal epilepsy, the motor phenomena usually are confined to the same parts and exhibit the same order of invasion, although they may become more extensive and even general. Consciousness may be preserved throughout the attack, and the affected muscles may be paretic subsequently. In psychic epilepsy the mental activities are suspended or modified for a varying length of time. Motility, if at all affected, being impaired for only a brief time.

Each case of epilepsy must be studied and treated individually. A careful and systematic record of attacks should be kept, noting the character as well as the frequency. In the beginning, it may be advisable to withhold all treatment in order to establish a basis for comparison with the condition after treatment.

The patient's living must be regular, and moderation in all his activity must be insisted on. The diet should be

simple, nutritious, digestible, and unstimulating. A just sufficient amount of exercise in the open air should be taken. The activities of the lungs, gastro-intestinal tract and the kidneys should be specially promoted.

In the attack itself, constricting clothing should be released, free access of air secured, and the administration of stimulants avoided. Violence of movements, or their long continuance, may justify the induction of marcosis by chloroform and ether. The lateral decubitus is to be preferred in order to prevent the inspiration of vomited matter.

Medical treatment is essentially empirical, palliative, or symptomatic. When an aura is present, inhalation of amyl nitrite may abort the attack. Apomorphine hypodermically has been used for the same effect. A reduction in the number of attacks is best accomplished by means of bromine preparations. An associated omission of sodium chlorid from the dietary is favorably reported. The joint administration of bromides with digitalis is of special service in minor epilepsy. Antipyrin is a useful adjuvant to the bromides. Borax, although not as trustworthy as the bromides, serves as a desirable substitute. The author has found 10 grain doses t. i. d. for considerable periods of time entirely inoffensive. Psychic effect is potent, as evi-

denced by the beneficial effect of occasional change in medication or even in the attending physician. Ligation of the vertebral arteries has been recommended with a view of controlling the cerebral circulation, and division or excision of the cervicofacial sympathetic has also been practiced. Any profound impression, such as may be induced by traumatism, accidental or surgical, may exert an apparently favorable influence upon the frequency and severity

of the seizures, just as an attack of acute intercurrent disease at times does.

(A patient recently attended, experienced no epileptic seizure for several months following excision of the cervicofacial sympathetic on the left side. Later, and up to the present time, eighteen months after the operation, attacks have been more violent and follow each other with far greater frequency than at any time during the twenty years of patient's illness.—Ed.)

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### General Surgery.

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*Conducted by F. Gregory Connell, M. D., Salida, Colo.*

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#### HERNIA.

Chas. L. Scudder, *Annals of Surgery*, January, 1905, under the title "An Operation for Inguinal Hernia," presents some splendid drawings illustrating the steps of an operation which includes the essential details of the Bassini method.

He says: "I have never yet found it advisable or necessary to excise the veins of the cord. I have occasionally, in children, not transplanted the cord, and, under certain conditions, have not transplanted it in adults. It seems to me of comparatively little importance whether the cord is, or is not, transplanted. I am more and more inclined not to transplant it."

The stump, or neck, the proximal part of the sack, is dealt with very carefully, being separated from the cord, and from the abdominal muscles, and then sutured, not with the ordi-

nary purse string suture, but with a continuous suture similar to that employed in other laparotomy wounds.

The distal portion, the sac proper, is not removed, its endothelial surface is gently curetted or wiped with a gauze sponge, and allowed to remain in the scrotum. No sutures should be taken at its mouth. When this portion of the sac is thick and extensive it is better to remove it.

Scudder has never seen a hydrocele or cyst follow this manner of treating the sac.

In suturing the internal oblique muscle, it is well to remember the location of the nerve (the ilio-hypogastric), and avoid including it in the suture.

The sutures above the cord, in the internal oblique, so well emphasized by Coley, are employed.

The external oblique is closed by a hemstitch that seems to draw the fascia

into a ridge, and does not appear to be as satisfactory as the imbrication method of Andrews.

Absolute haemostatsis is of great importance.

Scudder applies a spica with a ham-splint on the leg of the side that was operated on, making the point that a spica with a flexed knee does not exert any material pressure.

He has had only one recurrence, which is attributed to the slipping of the purse string that was used in tightening the neck of the sac.

In the January number of *Colorado Medicine* the editor considers the question as to the advisability of transplanting the cord in the radical cure of inguinal hernia and concludes in favor of non-interference with that structure.

"Eisendrath, at the last meeting of the A. M. A., (*J. A. M. A.*, Sept. 10, 1904) considers "The Anatomy and Radical Cure of Inguinal Hernia." After a review of the anatomy of the region, he describes and recommends the "imbrication" or lap joint method of E. W. Andrews, and concludes as follows:

"In the normal inguinal canal the anterior wall is relatively stronger than the posterior.

This condition is exaggerated in inguinal hernia so that the larger the hernia the greater the muscular gap between the arching fibres of the internal oblique and Poupart's ligament.

"In the smaller hernia almost any of the modern operations, either with or without transplantation of the cord, will suffice.

"When the muscular gap is marked,

some method must be employed in which a strong aponeurotic structure is used to fill the gap. The Andrew's modification of the Bassini operation, by utilizing a portion of the external oblique aponeurosis as an additional layer in the posterior wall of the canal gives the latter greater strength.

"The majority of surgeons believe best results are obtained by not transplanting the cord. It is still an open question whether or not the veins should be resected."

At the same meeting, L. L. McArthur (*J. A. M. A.*, Oct. 8, 1904), presented a paper upon "Autoplastic Sutures in Hernia and Other Diseases" in which he again describes and advises the employment of his very ingenious method of utilizing strands of the fascia of the external oblique muscle in lieu of suture material.

He has made a section of the line of suture in a case that met with death from other causes and when examined under the microscope show that this autoplastic suture material becomes living fibrous tissue.

In the *Zeit. F. Chir.*, 1904, No. 19, C. Hoffman considers the "Radical Operation for Inguinal Hernia by the Peritoneal Closing Method."

The sac is dissected well up to and exposing the parietal peritoneum. Then after splitting the sac, the parietal peritoneum above the sac of the hernia is closed by a tobacco-pouch suture. In this way the lining peritoneum of the inguinal region is rendered smooth with no funnel shaped projections, of peritoneum, which are, in fact, potential herniae. By this obliteration of



the tendency toward the formation of the hernia, with a diminution in the size of the internal ring, the rest of the operation is comparatively unimportant, and it is not necessary to transplant the cord.

He has used a wire suture, according to the Witzel technic in over 100 cases, always using instruments and never putting his fingers into the wound, and has not had an unfavorable case.

His conclusions are:

The peritoneal closure method alone completely removes the rupture; without it a peritoneal funnel remains.

A truss should not be worn after the operation.

All of these recent and various views upon the important subject of hernia and its radical cure, show that the treatment of this condition is not a closed chapter, but that it is in a process of gradual evolution, with the adoption and rejection of modifications which will eventually lead to a method that will include all the desirable features of the older methods, and in this, the comparatively ideal method may be expected.—Editor.

F. G. C.

#### ODOFORMIZED GLYCERINE IN PULMONARY TUBERCULOSIS.

W. Gessner in *Zeit f. Chir.*, No. 16, 1905, under the title "The Treatment of Pulmonary Tuberculosis, with Intra-Pulmonary Injection of Iodoformized Glycerin," calls attention to the very satisfactory results that have followed the injection of iodoform emulsion, into

tubercular joints, and recommends that this same line of treatment be followed in tuberculosis of the lung.

—He reports seven cases in which this suggestion has been carried into effect. In the first three cases, the tubercular process was well advanced and the results were not encouraging. In one case the emulsion was injected into a cavity from which it was at once expectorated. In the next four instances, the injection was performed early, and the symptoms rapidly improved or disappeared.

Five gm. of a 10 per cent emulsion of iodoform in glycerine, is injected into the affected lobe, at intervals of from ten days to two weeks, for from four to six weeks, during which time the patient is confined to bed. The injection is made from behind; for the apices, at a point from one to two finger breadths to the right or left of the first or second dorsal vertebra. The skin is frozen with ethyl chloride, while the patient sits up in bed with the head bent forward. The needle is made to traverse the first intercostal space at an angle of  $45^\circ$  from the horizontal and the injection is made into the cortical layer of the lung.

The injection into the lower lobe is accomplished by introducing the needle through the sixth interspace at about the costal angle, which is somewhat to the side of the inferior end of the scapula. In this instance the angle of the needle should be  $30^\circ$  with the horizontal.

The injection should be made slowly, and thus far he has met with no serious mishap.

## Ophthalmology and Otology.

*Conducted by Melville Black, M. D., Denver, Colo.*

### THE ATTRACTIVE FEATURES OF GRADUATED TENOTOMIES UPON THE EYE-MUSCLES.

Ambrose L. Ranney, A. M., M. D., New York (*Medical Record*, Feb. 11, 1905) reports twenty cases, each of which was relieved of some serious ailment by graduated tenotomies upon the eye-muscles. The list includes "extreme deformity from wry-neck," several cases of epilepsy, insanity, nervous prostration, "chorea, followed by paralysis," "progressive atrophy of muscles in both hands," "complete loss of the intellectual faculties," "uncontrollable neuralgia," "sleeplessness and nervous prostration" and "uncontrollable attacks of vomiting; loss of power and sensation in both arms; suspected tuberculosis." These cases had all been treated by other physicians without relief. Some of them had been seen by other ophthalmologists, who had either fitted glasses or pronounced the eyes to be normal. Each case was promptly relieved by Dr. Ranney almost immediately after muscular tenotomy was performed. The operation was followed by a speedy and complete cure that remained permanent. He believes that all these people have found some attractive features in graduated tenotomy.

The remarkable features of this paper, to me, lies in the fact that after

having practiced ophthalmology for 17 years I can not report a single case such as he has reported that has been cured by graduated tenotomy. I have always been on the lookout for them and would have been more than glad to give them the benefit of any indicated tenotomies. I have always performed the operation without hesitation whenever I found it indicated, and I have in consequence operated upon a good many eyes. I do not remember that I have ever had occasion to regret having done so, nor do I believe that I have very often overlooked cases wherein it was indicated. I never examine a case of refraction without examining carefully the muscle balance and estimating the amount of heterophoria, and this has always been done with the most approved and up-to-date scientific instruments at our command. I make this statement about the instruments used because Dr. Ranney emphasizes the necessity of such instruments, otherwise the examination may be faulty. Notwithstanding the fact that I have always been open to conviction, and have taken every pains to work out each case carefully, I am still unable to report a single case that is in any way remarkable that has been relieved by graduated tenotomy of the ocular muscles. I have not given up looking for these cases yet, and am always in hopes that some day one of them will turn

up, and that I may, by a simple tenotomy of the ocular muscles, work almost a miracle. I must confess that it is a little discouraging at times, and that I sometimes wonder how it happens that all these remarkable cases go

to others than myself. Again, it is still more remarkable that we have in this country so few men who report having effected these wonderful cures. These men can be numbered on the fingers of one hand.

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### Obstetrics.

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*Conducted by W. W. Reed, M. D., Boulder, Colo.*

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#### THE VOMITING OF PREGNANCY.

This was the subject of an address before the British Medical Society by Martin, and published in the *British Medical Journal* of Dec. 10, 1905. Particular reference is made in the address to classification, etiology and treatment.

In the writer's experience the vomiting first occurs at periods varying from a week to fourteen days after the first missed menstrual period and lasts usually during twelve to sixteen weeks of gestation. It may, however, in some cases, vary widely, coming on shortly after conception and lasting through the whole term of pregnancy.

The assumption that vomiting is oftener present and more persistent in primiparae is not supported by the observations of the writer. He suggests that the idea is due no doubt to the fact that more notice is taken of it then than subsequently.

Attention is called to the sudden cessation of the nausea and vomiting when it has previously existed and been persistent as a valuable sign of the probable death of the fetus.

With reference to the severity of the

symptoms Martin offers the following classification:

1. Where the nausea or sickness is slight, with retching occurring usually in the forenoon and passing away when quickening occurs, without any constitutional disturbance.

2. Where vomiting as well as nausea is frequent, not confined to any period of the day, and resulting in emaciation and appreciable failure of the health.

3. Where vomiting is so constant and persistent that all food is rejected, rapid emaciation, febrile disturbance, circulatory disturbance, jaundice, dry tongue, quick pulse, delirium, and threatened death follow.

4. Where organic disease is present and it is difficult or impossible to say what share pregnancy has in producing a dangerous or fatal result.

This classification harmonizes fairly well with the generally accepted three stages of pernicious vomiting, if we exclude class one, which is the ordinary so-called morning sickness. Class four, or that due to or complicated by organic disease, is not usually given as a special class.

The first stage of pernicious vomiting, as usually recognized, is one where emaciation is the essential feature, due naturally to the continued vomiting. In the second stage fever is added to the picture, the pulse becomes small and rapid, albumen and casts are found in the urine. It is during this stage that gynecological or obstetrical treatment is indicated and gives its best results.

If the third stage develops, it is very improbable that the patient's life can be saved. The chief characteristics of the third stage are, less vomiting, other symptoms unchanged, extreme thirst, body cold, abdomen collapsed, intense headache, impaired vision, contracted pupils, delirium, somnolence, coma, and death of the inanition type.

The variously ascribed causes of the vomiting of pregnancy are considered by the writer, but all believed to be, when universally applied, found more or less wanting. As is generally true, the fact of the accumulation of a vast literature on its etiology goes to prove that so far no really specific cause has been found.

The neuropathic theory takes cognizance of the profound changes that take place in the central nervous system, that the intellectual functions are quickened, habits, moral and religious, intensified or otherwise, complete change of disposition and character, morbid cravings, unnatural desires, events of little importance becoming greatly magnified, etc., and altogether, that the pregnant woman is highly impressionable. But to what is all this due, and how is the nervous system so irritated, and the special symptom of

vomiting caused? Of this the variously ascribed causes gives no satisfactory explanation.

The pseudo-hysterical theory, as a factor, Martin considers fallacious. He believes that vomiting, once having become established in the hysterically inclined, may be thereafter continued, but that hysteria is an initial cause he does not believe.

In his own mind the author is convinced that the true cause of the vomiting of pregnancy is a toxic one, an auto-intoxication, and that the toxemia is developed as the result of the pregnancy.

The conclusions of the address are as follows:

1. That there is simple nausea with or without actual emesis, of physiological and reflex origin. A symptom only due to hyperemia of the developing uterus, vessels, and nerves in a confined cavity.

2. That malpositions of the uterus, if the cause of so many troubles in ordinary conditions of health, must be a graver trouble in the pregnant woman and thus increases the vomiting of pregnancy and consequent malnutrition and emaciation.

3. That in the absence of uterine troubles and organic disease, hysteria plays an important role and usually defies all therapeutic remedies.

4. That it is probable in pregnancy with its increased arterial tension, and where lung and cardiac complications exist, gastric irritation may be set up and continued in consequence of the special toxæmia which at present is only suspected, but which in future re-

searches I feel convinced will be scientifically proved.

#### LACERATION OF THE PELVIC FLOOR.

In the *Jour. A. M. A.*, Dec. 3, 1904, Burtenshaw, while endorsing the practically unanimous opinion of the advisability of the immediate repair of pelvic floor laceration, at the same time appreciates the fact that the ultimate results of such operation are not entirely satisfactory and do not fully restore the normal functions and integrity of the torn structures. The unsatisfactory results often obtained he attributes to one of three causes, or a combination of the three:

1. Failure on the part of the operator to appreciate the extent and direction of the subcutaneous tear.
2. Failure to properly approximate the edges of the torn muscles and fascia.
3. An overstretching of the muscles of the pelvic floor, which can not be overcome or modified except by denudation and suturing of the vaginal wall, which he believes is not justifiable at this stage of the puerperium.

It is maintained that, if the pathological conditions are properly recognized at the time of their occurrence the primary operation should more nearly restore the normal pelvic floor than any subsequent operation possibly could. In closing the wound, however, the original lines of cleavage must be taken into account and the individual structures must be approximated and sutured separately.

The irremediable overdistention can be largely overcome by properly

placed sweeping sutures and thus a large percentage of the partial failures may be greatly reduced.

Dr. Burtenshaw's paper is a very instructive one. Its most important point being the consideration of the overdistention or overstretching of the perineal structures as a factor in the operation of perineal repair. This idea is one worth keeping in mind by the operator.

The necessity of a more thorough appreciation of the existing pathological conditions and a more careful and painstaking examination of them is apparent to all. And when the operation itself for the immediate repair of pelvic floor lacerations is conducted as a surgical operation should be conducted, with the patient on a table, properly anaesthetized, and in a good light, with plenty of assistance and the necessary instruments, then will the operation be more successful in its results and women will be spared the much too frequent secondary operation with the usual long train of intermediate symptoms leading up to it.

#### INJURIES TO THE ANTERIOR VAGINAL WALL IN LABOR.

Hirst, in a paper before the Section on Obstetrics, *A. M. A.*, as per *Jour. A. M. A.*, Nov. 12, 1904, calls attention to the fact that these injuries are as common and often more serious than are those of the pelvic floor. Their nature, however, and causative influence (he believes) in the subsequent production of urethrocele, cystocele, partial incontinence of urine, cystitis, and causes contributing to pro-

lapsus uteri—the recognition of these injuries and the methods of their repair are not yet understood even by the masters in maternities and the leading specialists in obstetrics, to say nothing of the general practitioner. And yet they are as easily recognized and are as easily and securely repaired during the puerperal convalescence as those of the pelvic floor. The difficulty has been that heretofore they have not been looked for understandingly.

In order to fully comprehend the subject it is necessary:

1. To understand the anatomy of the region.
2. To comprehend the nature of the injuries to the anterior wall in labor.
3. To be able to recognize these injuries when they occur.
4. To devise an operation that will repair them and restore their original integrity and function.

Hirst disbelieves the old idea that the anterior vaginal wall is supported by muscles, particularly the levator ani, but says the pelvic outlet is closed anteriorly by the diaphragm of the urogenital trigonum, consisting of the aponeurosis, the muscle, and fascia of the urogenital trigonum, and that these lying as they do in the triangle under the symphysis are the structures that are injured.

These injuries occurring to the anterior wall in labor are two-fold:

1. The transverse rugae may be nipped between the head and the symphysis, or the fold of the vaginal wall may be pushed down in front of the head and separated from its attach-

ments to the loose connective and elastic tissue between its upper third and the bladder. The immediate results of this injury are not apparent but in time one sees a bulging downward and outward of the lower half of the anterior vaginal wall, allowing cystocele. The constant pull of this drags the cervix forward, tilts the uterus backward, thus contributing a most important cause to prolapsus uteri.

2. A more serious immediate damage is a laceration of the musculo-tendinous diaphragm of the urogenital trigonum. Owing to the more common position of the head at the outlet the structures in the left anterior sulcus are most extensively torn.

These injuries can be easily recognized after labor by inserting the forefinger, palmar surface upward, and making pressure upward and outward toward the pubic bone. On the sound side the elastic and resistant cushion is easily felt, on the torn side the finger comes immediately in contact with the sharp edge of bone, nothing intervening but mucous membrane, and very frequently this is torn through, and one can see the raw surface as in tears of the floor.

The anatomy of the parts being known and the extent and character of the injury being fully appreciated, the remedy is easy to devise—approximate and suture the torn fibers of the anterior pelvic diaphragm. If the injury is sub-mucous, Hirst says, the sutures should be inserted so as not to crowd the mucosa too much. He avoids this by making one deep insertion of the

needle and one shallow one into the edges of the torn structures. If the repair is postponed a few days it will be necessary to denude the mucosa before suturing.

#### ACCOUCHMENT FORCE.

We notice that this subject is being discussed in recent literature with renewed interest by several noted obstetric writers. The indications and contraindications for the various methods of the employment of force in emptying the pregnant uterus are yet by no means settled. Zinke, in November, 1904, number of the *American Journal of Obstetrics*, contributes a very important article on the subject. He divides the methods employed into (a) the rapid, and (b) the slow,—and discusses in detail the following:

1. The graduated steel and the bladed dilators.
2. The bag or hydrostatic dilators.
3. The manual and bimanual dilation.
4. The superficial and deep cervical incisions.
5. Bossi's and similar metal dilators.

In summing up his observations he presents the following conclusions:

1. The graduated steel and ordinary bladed dilators are employed mainly for dilating preparatory to digital, manual, and bag dilation.

2. The bag or hydrostatic dilations should be used only when time is not an important element, when the cervix is softened, and when an easy introduction of the balloon is possible.

3. In the manual and bimanual dilation a soft and partially obliterated cervix and dilatable os are absolute prerequisites. This is preferred to the bag method when time is an important element.

4. Deep cervical incisions is the method in the presence of sepsis of the vagina because of its short duration and in that it can be performed under a continuous flow of an antiseptic solution. An intact, hard, elongated cervix is always an indication for this method.

5. The Bossi and similar metal dilators, if they are not entirely needless, are certainly very dangerous instruments and destined no doubt ultimately to the "lumber room of obstetric instruments."

### Foreign Literature.

*Conducted by Wm. J. Baird, M. D., Boulder, Colo.*

#### THE TREATMENT OF NEPHRITIS BY EXTRACT OF SWINE KIDNEY.

Maurice and Dardelin, of Paris (*Presse Medicale*, 1904, No. 102), report 18 cases of nephritis treated by the

macerated extract of hog's kidney according to the method recommended by Renaut in December, 1903. Sixteen of the eighteen cases were apparently cured (complete disappearance of albumen), in one the albumen was re-

duced to one-half, and in one the treatment was discontinued.

The treatment lasts ten days. The extract must be prepared each day according to careful directions, and, when possible by a chemist, placed on ice, and taken in three portions after 11 a. m. Milk diet is advised, but vegetables may be allowed.

Among the cases reported were some very grave ones, including arteriosclerotic kidney, but the results were uniformly good, a speedy and apparently permanent cure resulting.

An explanation of this remarkable action of the macerated kidney extract is not given, but the authors believe that it is the most valuable known remedy for nephritis.

#### ALCOHOLIC CIRRHOSIS OF THE LIVER IN CHILDREN.

Hoffman (*Deutsche med. Wochenschr.*, No. 30, 1904) reports cases of alcoholic cirrhosis of the liver in children aged respectively 21 months, 30 months, 42 months, and 11 years. They had taken alcoholics with their meals (given by parents) *ad libitum*. One received one-half pint of wine a day; the older, one-half pint, not to mention beer, daily for five years.

The anatomic picture was strikingly similar to that seen in adults. The liver of the youngest was coarsely granular, and the right lobe so hypertrophied that it looked like a tumor.

#### STERILE CATGUT.

Fuchs (*Muench med. Wochenschr.*, No. 29, 1904) warmly recommends

iodin catgut (first recommended by Claudius) as really sterile, strong, and slowly absorbed. The catgut is soaked in a solution of potassium iodid and pure iodine, of each one gram (15½ grains) in 100 cc. (3 1-3 oz.) of water. Then it is ready for use.

#### GOUT IN CHILDREN.

Lentz (*Deutsche med. Wochenschr.*, No. 33, 1904) calls attention to eight cases of gout in children collected from the literature by Minkowski in his monograph, and adds the following case from his own practice. A male, seven years old, had his first attack of gout at six months of age, the earliest development yet reported. Two to three times each month the child was awakened from sleep at night by violent pain in all the extremities, most severe in the hands and feet. Toward morning there was gradual amelioration, with complete disappearance within two or three days. The child was weak, poorly nourished, and anemic. In the intervals, it felt well and examination showed nothing abnormal, but the next morning after an attack the distal phalanges of the fingers of both hands, especially the third and fourth fingers of the left hand, showed typical pea-sized deposits, so characteristic of gout (chronic). The skin was normal. There was no tenderness, but active, as well as passive, motion was painful. The toes showed nothing abnormal, but active motion was painful. There was no fever, and the urine was clouded, highly acid, of sp. gr. 1.023, with a heavy sediment. There



was no albumen, no sugar. Microscopically there were abundant crystals of amorphous sodium urate and crystals of calcium oxalate.

Under treatment by alkalies the attacks grew milder and less frequent and the deposits in the fingers disappeared, but after several weeks the child was lost sight of.

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PARAGLOBULIN IN THE URINE AS A  
SIGN OF AMYLOID KIDNEY.

Real (*Wiener med. Wochenschr.*, No. 30, 1904) gives the following: In a patient sick of pulmonary tuberculosis (cavities), the uranalysis showed abundant albumen. Dilution with water clouded the urine. Treated with a saturated solution of ammonium sulphate, a precipitate soluble in water (paraglobulin) was obtained and the diagnosis of amyloid kidney established.

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ACUTE NEPHRITIS CAUSED BY PERU-  
VIAN BALSAM.

Gassmann (*Muench. med Wochenschr.*, No. 30, 1904) reports the following. In the case of a patient suffering from eczema, 6 drachms of balsam of Peru were ordered to be rubbed into the eczematous patches each night for two successive nights. On the second day there was severe acute nephritis with general edema. Even after 14 days there was 6 to 8 per cent. albumen.

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THIOSINAMIN.

Since the introduction of thiosinamin into therapeutics by Hebra, in

1892, it has been used widely in the hope of prompting the absorption of scar tissue. Hebra saw lupous ulcers favorably influenced and large glands (particularly tubercular) reduced to normal size, opacities of the cornea cleared, absorption of exudates prompted, contractures due to skin scars and contracted muscles and tendons relieved, and ectropions cured regardless of the cause of the scars, wounds, burns, etc.

Hebra cautions against use of the remedy before the inflammation has fully subsided.

In 1903 Sengemann of Breslau reported two cases of Dupuytren's contracture cured by thiosinamin and in March, 1904, Sengemann of Bremen (*Deutsche med. Wochenschr.*, No. 13) reported the following case: A private officer, 35 years old, had contracture of 10 years standing. The fourth finger was flexed to an angle of 70°. After 45 injections of thiosinamin, combined with massage, passive motion, and local application of paste of thiosinamin the fingers were straight. The duration of the treatment was 60 days.

Other cases treated successfully by Sengemann are: Two additional cases of Dupuytren's contraction, ankylosis of all points of the thumb following extensive wounds of the soft parts, cured by 25 injections.

Hart (*Deutsche med Wochenschr.*, No. 8, 1904) reports the cure of a case of pyloric stenosis. A male, aged 56, anemic and emaciated, with gastric troubles of twenty-eight years' standing, has gradually grown worse, until he was limited to liquid diet, and com-

pelled to wash out the stomach daily. The stomach was dilated, and there was constipation as well as motor insufficiency (gastric). The treatment extended from October 23 to December 23, 23 injections being given, with complete relief of all symptoms and apparent cure.

Mentin (*Deutsche med. Wochenschr.*, No. 5, 1905) reports the following case: A woman, 53 years of age, on January 4, 1904, suffered extensive burns, involving the face, arms, and hands. Skin grafting was followed by healing (scar tissue), but the left arm was ankylosed at a right angle. The fingers were ankylosed, the mouth could scarcely be opened, and there was very marked double ectropion. Treatment was begun last April, the patient being dismissed as cured May 30. The injections were made three times a week.

Other reports are made of the successful use of this remedy in the treatment of pleural adhesions, stricture of the urethra, in preparation for abdominal operation when adhesions are suspected, as in gallstone operations, appendicitis, etc., and as post-operative treatment in all operations followed by undesirable formation of scar tissue, adhesions, chronic constipation caused by adhesions, the formation of scar tissue as a result of disease process, or operative interference involving the eye or ear.

How the remedy accomplishes such remarkable cures is not known. It is used in 15 to 20 per cent. solution, beginning with about one-third of a hypodermic syringeful and rapidly in-

creasing to a syringeful dose, using from 2 to 3 grams of the thiosinamin in 20 to 30 doses, given two to three times a week.

Mellin avoids making the injection within the scar area. As the injections are painful, it has been suggested that they may be preceded by 1 per cent. solution of cocaine, the canula to be left *in situ* until the thiosinamin injection is made. The remedy is not expensive.

#### THE PROPHYLACTIC USE OF DIPHTHERIA ANTITOXIN.

1. When diphtheria develops in a family, each member, especially those under ten years of age, should receive a prophylactic dose of antitoxin. This is particularly true of the poor, owing to the difficulties attending complete isolation. When the value of prophylactic doses of antitoxin is generally known, it will be seen that the cost of the few hundred units of diphtheria antitoxin is much less than several weeks treatment of a case of diphtheria.

2. If diphtheria develops in boarding houses, orphanages, asylums, children's wards, hospitals, or in any place where a large number of children live together, all, especially those under twelve years of age should receive prophylactic doses of antitoxin.

3. In any case, the prophylactic doses should be not less than 250 to 300 units, and in children sick of other infectious diseases, particularly scarlet fever, whooping cough, most of all measles, the doses should be not less than 500 units. Nursing children should receive the same dosage.

4. In hospitals for infectious diseases where diphtheria cases are being treated, each patient should receive a prophylactic dose of diphtheria antitoxin at least every four, and much better every three, weeks. Children sick of measles should be given a prophylactic dose every fourteen days.—Ibrahim in *Deutsche med. Woch.*, No. 17, 1905.

#### QUININE AS AN OXYTIC.

1. Unquestionably quinine stimulates uterine contraction and, while its action is not absolutely certain, in the great majority of cases the results from its use justify confidence in its oxytocic action. It is especially to be recommended in private practice where instrumental procedure is likely to result in infection.

2. Its action in increasing uterine contractions is specially prompt.

3. Its superiority over ergot is due to the fact that the contraction following its use are not tetanic but rhythmic, strong contractions followed by corresponding pauses.

4. It is best given in doses of  $7\frac{1}{2}$  grains from 15 minutes until two or three doses have been given. The first dose often fails to cause contraction, but the second or third is often followed by violent contractions.

5. Large doses long continued may induce labor.

6. In no case have I seen undesirable effects from its administration—Josef Baecker (*Deutsche med. Woch.*, No. 11, 1905).

#### THE TREATMENT OF LARYNGEAL TUBERCULOSIS BY SUNLIGHT.

Kunwald (*Muench med. Woch.*, No. 2, 1905, *Wiener Lin. Woch.*, No. 1, 1904) states that at present all cases of laryngeal tuberculosis at the Alland Sanitarium are treated by sunlight.

The armamentarium is as follows: A strip of wood (board) two to three inches wide, 5 to 6 feet long; two pieces of wood nailed to the end so as to form a cross and serve as a base to the former, which is provided toward the opposite end with several holes provided with movable pins, several nails, an ordinary hand toilet mirror and the laryngeal mirror.

The technic is as follows: The patient sits with his back to the sun, fastens the hand mirror by means of the nails upon the upright board slightly above the level of his mouth. The mirror may be inclined to a proper angle for reflection by means of the wooden pins projecting through the upright back of the mirror. Seated in front of the mirror, the patient protrudes his tongue, holds it with his left hand, while with the right he passes the laryngeal mirror into his fauces, and so places it that a clear picture of his glottis is seen in the mirror with the pharynx clearly illuminated this is not especially difficult.

The most favorable hours for treatment are the early morning and late afternoon. This is done to avoid, so far as possible, the heat of the sun's rays, which is important, because this causes dilatation of the capillaries, thus influencing unfavorably the inflamma-

tory process, and, owing to absorption of the ultra-violet rays, the results are not so good. For these reasons the best results are to be had during the spring and autumn months.

Patients acquire the technic in a surprisingly short time.

The length of the sittings varies with the experience of the patient. At first not longer than five minutes is taken, eventually the time is extended to one hour, never longer nor more than one hour a day. In all, twenty to forty hours are given.

Tumor-like infiltrations of the mucous membrane, irrespective of location, are most favorably influenced, while diffuse infiltration, especially of the cords improve slowly under the treatment, but a cure may be expected. For the present oedematous swelling of the mucous membrane is regarded as a contra-indication to treatment by the sunlight. Pharyngitis hypertrophica is made worse by the treatment, as shown by increased redness and swelling of the mucous membrane. A sudden intense redness of the pharyngeal mucous membrane (healthy) was seen once; sudden intense redness of the laryngeal membrane accompanied by difficult breathing twice.

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#### THE PROPHYLACTIC AND ABORTIVE TREATMENT OF GONORRHEA.

Professor Finger, in a clinical lecture (*Deutsche med. Wochenschr.*, No. 7, 1905), gives a short review of the results of efforts to abort gonorrhea (calomel, sublimate sol., silver nitrate,

caustic alkalies, etc.) and concludes that the results have not been satisfactory. In 40 to 50 per cent. of cases, gonorrhea is cured with 14 days, but in 50 to 60 per cent., the process is made worse—pain, frequent urination, periurethral abscess, epididymitis, prostatitis, cystitis—rather than better. If the disease is to be aborted the germicide must reach all the gonococci present, for if only a small number escape the process will be lighted up anew, and the so-called abortive treatment is a failure.

So long as the cocci are confined to that part of the mucous membrane lined by pavement epithelium, they live as epithelial parasites, but as soon as they reach the cylindrical epithelium and make their way between them, emigrating into the subepithelial connective tissue, they are practically beyond the reach of germicides, not to speak of their possible escape through hiding away in the depths of small glands.

During the very earliest life of the infection, when there is present only itching at the meatus spontaneously and on urination, slight mucous secretion, microscopically a few pus cells, rather abundant pavement epithelium, and a few extracellular gonococci, the so-called abortive treatment should be limited to this stage. Various remedies are recommended; 2 per cent. silver nitrate solution, 1 to 1000 sublimate solution (Hugues), 4 to 5 per cent. silver nitrate solution locally (endoscopically) applied (Funk and Feldecki), curetting the fosa navicularis and injecting 2 per cent. silver nitrate

solution (Ullman), two daily injections for four to five days of 2 per cent. and 4 per cent. solution, then for three to five days 1 to 2 per cent. solution, the solution to remain 10 to 15 minutes in the urethra (Ahlstrom).

In many cases there is apparent success, but within 6 to 14 days the discharge returns and the treatment must be resumed. For the reasons stated, Professor Finger has abandoned the abortive method in the treatment of gonorrhea and in every case begins at once systematic local treatment, in recent cases  $\frac{1}{2}$  per cent. protargol or argonin should be ordered and it is expected that a cure will not be reached in so short a time.

A prophylactic, to be valuable, must be uniformly effective and not hurtful. So far no certain preventive has appeared. The usual prophylactics used

are silver nitrate 1 to 1000, and corrosive sublimate, 1-4 to 10000. Both solutions intensely irritant, cause mucous catarrh and often purulent discharge lasting 6 to 8 days. Scarcely less violent in their action are other of the prophylactics usually recommended, as protargol, argonin, albargin in 5 to 20 per cent. solutions.

If these resulting discharges become chronic they lead to sequelae no less serious than does a specific urethritis.

Often too, one accustomed to these benign catarrhs following the use of strong antiseptic solutions, acquires a gonorrhea, mistakes it for the effects of catarrh, and allows it to become chronic before consulting a physician.

Professor Finger believes that the physician is not warranted in prescribing prophylactic treatment for gonorrhea.

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## BOOK REVIEWS.

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**SURGICAL TREATMENT OF BRIGHT'S DISEASE.** By George M. Edebohls, A. M., M. D., L. L. D. Price, cloth, \$2.00. Frank F. Liseicks, publisher, New York, 1904.

Certainly no one in America is so well qualified to write a book on this subject as Dr. Edebohls, who made more valuable contributions to our knowledge of the surgical diseases of the kidney and renal operative technique than any other man in the profession.

Although numerous articles upon this subject have been published by the au-

thor in the various medical periodicals, nevertheless the book contains new matter, never before published, and deals almost wholly with that phase of the subject which is at present exciting the keenest interest: the results.

The method of operating, though clearly described, leaves much to be desired, especially when no illustrations accompany the brief text.

Tables of analysis of results, as well as the complete bibliography, enhance the value of the book greatly.

The reader will find this work complete and useful. O. M. S.

TRANSACTIONS OF THE NEW HAMPSHIRE MEDICAL SOCIETY at the 113th anniversary, held at Concord, May 19-20, 1904. Granville P. Conn, M. D., secretary, Concord, N. H.

This volume presents the usual record of transactions, committee reports, list of officers, committees, and members, and, what is of more importance, the papers and addresses read before the meeting. The latter are of interest, and cover a wide field of medicine. Of especial interest are the prize essay on "The Sanitarium for Incipient Pulmonary Tuberculosis," by Frederick L. Hills, M. D., of Concord, and the papers on "A Case of Embolism Following Operation," by Sam S. Dearborn, M. D., Nashua, and "Albumenuria in the Apparently Healthy," by W. H. Leith, M. D., Lancaster, New York.

TRANSACTIONS OF THE INDIANA STATE MEDICAL ASSOCIATION, 1904. Fifty-fifth annual session in Indianapolis, Indiana, May 19-20, 1904. F. C. Heif, M. D., secretary, Indianapolis.

This volume of 436 pages contains

the work of the annual session of the State Medical Association. This meeting had presented before it a considerable number of papers of special merit, so that as an educative agency the meeting must have been of considerable influence on the profession of that state.

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THE ANNUAL REPORT OF THE SURGEONS OF THE PUBLIC HEALTH and Marine Hospital Service of the United States, for the Official Year of 1904. Government Printing Office, Washington.

Some idea of the vast scope and great amount of work done by the Public Health and Marine Hospital Service of the United States may be obtained from this report of some 675 pages, 400 of which are devoted to various reports of more or less routine work in sanitation and quarantine. The rest of the work contains contributed articles and necropsy reports. Much of this is very valuable and consequently the demand for the volume exceeds the supply allowed by the government, which is 2,500 copies printed in any one year.



# The Colorado Medical Journal

AND

## WESTERN MEDICAL AND SURGICAL GAZETTE

*A Scientific Medical Journal, Devoting Special Attention to Tuberculosis and Climatology—A Journal of Science, of News, and of Medical Lore.*

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No. 5

### ORIGINAL COMMUNICATIONS.

#### Some Ways to Prevent the Spreading of Tuberculosis.\*

By THOS. A. JONES, M. D., Ridgway, Illinois.

Surely no one can doubt the statement that the greatest temporal blessing is health. Then what a great part of the drama of life is played by physicians, spending their lives seeking obedience to the laws of nature and teaching the same to their fellow men!

Not only to restore, but to prevent, is one of the great aims in the practice of medicine. By prevention we avoid restoration. True, we cannot prevent all diseases, but we can prevent some, and aid in limiting others. Especially is this true in all infectious and contagious diseases. The contagious diseases are more easily controlled than the infectious ones. There are three reasons for this:

1. Because the laity know more of the danger of infection.
2. Because their course is more acute—hence there is not so much time for exposure of non-infected persons.
3. Because legislation gives physi-

cians authority in controlling them.

Why can't the laity be taught the danger of exposures to the infectious, or less contagious diseases, and why does not legislation give physicians the authority to aid in controlling them? Because so many seem not to realize the absolute necessity for such, and because legislation has not been strongly enough asked for assistance. Not only your great state of Georgia in the south, not only the New England states of the north, not only my own state of the center, not only the great western belt, with its wide-famed healthful atmosphere, not only North America, but the entire world, all nations and all races need some means to control this properly called "great white plague."

In the past year 7,000 people died in Illinois from tuberculosis, more deaths than were caused by diphtheria, scarlet fever, smallpox, typhoid fever,

\*Read at the Anti-Tuberculosis League, Atlanta, Ga., April 17, 1905.

measles, bronchitis and whooping cough. This seems startling, but, according to statistics, is sorrowfully true.

It is estimated that it costs the state of Illinois three and one-half millions of dollars each year for consumption in people under twenty years of age. (This is not public money. I wish it were.) If this enormous sum were spent properly, what a great benefit could be accomplished! As it is, year passes after year, with the same results. Then the question confronts us, what shall we, or what can we, do?

The authorities now seem to think that while climate is an important factor in the care of these patients, it is not absolutely essential, but direct care and sanitary surroundings are of grave importance. Especially is this true in preventing further infections. Then each state, or section of country, as circumstances and conditions might demand, should have some means of helping to control, or giving aid to, these patients, and removing the danger of infection of others. We need more hospitals and colonies for consumptives.

While it must take some time before we may be able to adopt and bring into complete operation a plan or some system to control this, there are numbers of ways in which we may be beneficial in helping to check its spreading if we will only "be up and doing" in the present. Of these, I shall attempt to give a few.

To begin with, such a great majority of the laity are not strongly enough impressed with the fact that tuberculosis is infectious. They may use the

same sleeping room, or probably the same bed, same drinking and eating vessel (without its being disinfected), same clothing, or probably same kerchief, as the patient; even kiss the patient on the lips, make scarcely no distinction whatever between themselves, or other members of the family, and the patient; the patient's bed and room are poorly ventilated or not ventilated at all, thus shutting out fresh air and sunlight—enemies of the tubercular germ—and last, but not least by any means, the sputa and excreta are not properly disposed of. These are only a few hints, as we might say, regarding the patient.

True, in our hospitals and many homes, such is not the case. But it is true in many places in our country towns and country homes, and in homes of the poor.

Where the fault lies for the past, is not for me to say. In some cases it might have been the fault of the patient, in others the fault of the medical profession. Let that be as it may, the future welfare must depend upon the medical profession. The world is looking to us for the advancement. The people must be educated, and it must be done by us.

By putting our patients in proper hygienic conditions and sanitary environments, the germ of tuberculosis is made to take refuge in other quarters; and the idea is to have all places, as nearly as possible, in such a condition that it may have no place of refuge to open a new field of devastation.

Another source of infection is spitting upon floors and walks by the in-



fecting a thing which should be prohibited by owners of private property and by legislation in public property. Public drinking cups are abominable, and should be condemned everywhere. True, in a large number of towns and cities, spitting upon the sidewalk is prohibited, and the cub substituted by the continuous stream. Legislation is making this stride. In some places legislation goes farther than that in requiring parties contracting for matrimony to furnish a certificate from the physician showing them to be free from tuberculosis.

If work by the medical profession

and legislation will accomplish a part, why can't we do more? The point is, not can we, but will we? Our fellow men are only eagerly waiting for our advice, and we must advance, and keep advancing this noble work until success has crowned us for our efforts. Let us keep teaching the importance of this work until every man shall become a co-worker. Then we can have aid, then we can have donations, and, above all, legislation. Then it will be that we can be able to control, if not eradicate from the world, that dreaded disease called consumption.

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### **Light—Its Therapeutic Importance in Tuberculosis as Founded Upon Scientific Researches.**

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By J. MOUNT BLEYER, M. D., F. R. A., M. S., LL. D., New York City.

Chairman on Light and Electricity. American Congress on Tuberculosis, held at St. Louis, October, 1904.

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*(Continued from the April Number.)*

It has been shown that chlorophyll is formed under the combined influence of light and actinism. We can easily repeat that experiment with colored media which cut off the heat rays, but which admit the luminous and actinic rays. It will be found that plants grow of a lively green and the extracted green of their leaves is preserved without change much longer than under any other conditions. To produce chlorophyll, a recombination of the elements which light assists the plant to separate from the water and the air is necessary; and there is no doubt that

it will be proven that chlorophyll results from the combined influences of light and actinism in exciting one of those mysterious functions of plants which excite the admiration, but elude the curiosity of the physiologist.

Mr. Hunt says, "that he rarely succeeded in getting plants to flower under the influence of any of the media which cut off those rays usually termed the calorific rays." There is something in that, where also photo-therapeutics are applied. "For instance, under intense yellow, deep blue, or very dark green glasses, however carefully

the plants may have been attended to, there was seldom any evidence of the exertion of their reproductive functions." This evidently arises from the necessity of some check upon the chemical actions which depend on light and actinism, and which exhaust the elements in the formation of wood and vegetable juices which are necessary for the production of those principles which go to the preservation of the species.

It should be again explained, that by *light*, I mean to express all those rays of the spectrum which are visible to a perfectly formed human eye; by *actinic principle*, the principle to which the phenomenon of chemical change under solar influence or the electric arc belongs; and by *calorific radiations*, not merely those effects which are traceable by any thermometric instruments, but also those which we can detect by the protection change, produced by a class of rays existing near the point of maximum heat in the spectrum.

Experiments with red fluid media have shown that plants, under certain circumstances, have decidedly bent from it. It is a hard problem at the present state of our knowledge to explain this as the effect of mere heat; it would appear that some property resides in the red rays which acts in opposition to the general law.

A few remarkable results must yet be noticed. Under all ordinary circumstances plants bend in a very decided manner towards the light. This is known as heliotropic phenomena. Herr Wiesner presented a monograph to the Vienna Academy in 1878, which is found in the *Anzeiger* of that academy; an idea of some of the fruits of his

researches on this important subject is given in detail. In studying the *influence of light* and heliotropism, Herr Wiesner's experiments were made in the light of a gas flame which burned under a constant pressure with a uniform intensity (luminous power, 6.5 spermaceti candles). The unit for the measurement of the light intensity was the strength of this flame at the distance of one metre. It was found that in heliotropism three cardinal points of light intensity are to be distinguished, an upper limit, a lower limit, and between the two, an optimum of light intensity. Thus with decreasing intensity of light, the strength of the heliotropic effect increases to a certain point, and beyond this point decreases. The lower limit referred to coincides with the lower limit of light intensity for the stoppage of growth in length, while the upper limit does not coincide, or only occasionally coincides with the upper limit of light intensity for the growth and length; for in the case of plants very sensitive heliotropically it lies higher, and in less sensitive plants lower, than the upper limit for growth in length. The mode of arrangement of the experiment in gas-light did not permit of determining in all cases the limiting values of the light-intensities: thus, for example, the upper limit for the heliotropism of etiolated shoots of *Salix alba*, and of the hypocotylous portion of the stem of *Viscum album*, and the lower limit for the heliotropism of the growing stem of vetch could not be ascertained. The former lies about 400, the latter far below 0.008. The optima were found to lie between 0.11 (the growing stem of the pea) and 6.25

etiolated shoots of *Salix alba*). Both with gas light and with natural light, it was ascertained that, beyond a certain intensity, no growth in length occurs.

He also speaks in this treatise of the relations between the refrangibility of the light rays, and the heliotropic effects. The experiments were made partly in the varieties of light, gotten by sending white light through colored solutions. \* \* \* It was proved that portions of plants very sensitive heliotropically; e. g., growing stems of *Vicia sativa*, undergo curvatures in all kinds of light, even in ultra-red and ultra violet, with the exception of yellow. The maximum of the heliotropic force of light lies at the boundary between violet and ultra-violet; a second (smaller) in the ultra-red. From both maxima the power of the rays to produce heliotropism decreases gradually and to the yellow. Portions of plants little sensitive heliotropically are no longer influenced by orange, or by red and green, or even in the case of etiolated shoots of *Salix alba* by ultra-red rays. The yellow rays quite stop the heliotropism; for example, in pure red a quicker and stronger heliotropism occurs than in a light which gives yellow besides red. In another section of his experiments he gives us some important results on the joint action of positive and negative heliotropism and (positive and negative) geotropism. It is here shown *inter alia* that, in the case of plants tropism is, at the optimum of light intensity, apparently extinguished, even in strongly geotropic organs; further, that in many organs (growing stem of

the pea) the heliotropic and geotropic powers of curvature disappear simultaneously; in others, however, (stems of cress) the younger portions of the stem are more strongly heliotropic than the older; and the oldest aftergrowing portions of stem no longer show bendings in the light, but, through drawing action on one side the heliotropic overhanging point of the stem, show apparently heliotropic curvatures chiefly due to growth, which are then counteracted by negative geotropism.

The arguments go to prove that heliotropism is due to the phenomenon of unequal growth upon unequally lighted sides of an organ, which he forcibly sets forth in many experiments, and proof is offered that, for heliotropism as well as for growth in length, free oxygen is necessary.

He also furnishes proof that the conditions for heliotropism remain constantly the same during its course and coincide with the conditions for growth in length; further that heliotropism (and the same holds good for geotropism) occurs as a phenomenon of induction. It is also shown that when light induces heliotropism in an organ, a fresh heliotropic or geotropic induction meets with resistances, and can only come into action after extinction of action of the first; and that the successive impulses of light and gravity, of which each by itself is capable of producing certain effects, do not have their action added together when the effects that should be obtained separately are in the same direction, e. g., and the same side of the organ is helped in its growth in length.

(TO BE CONTINUED.)

## SELECTED ARTICLE.

### Municipal Control of Tuberculosis.\*

By JOHN W. HUDDLESTON, M. D.

I shall naturally dwell chiefly on the concrete example of that control afforded by the City of New York, both because I am most familiar with the work there and because such control has been exercised in that city perhaps earlier than in any other large city, and certainly to an extent hitherto unknown elsewhere. The possibility of this preeminence has been due to two factors: 1. The large powers of the Board of Health, which, exercised over a long term of years, have made its action familiar, unquestioned and generally respected. 2. The presence, as an officer of the board in various positions, of a man of great scientific zeal, curbed by such conservative judgment and enforced by such strength of personality that his advice and recommendations have been adopted by the board. I refer, of course, to the present medical officer, Dr. Herman M. Biggs.

It may perhaps be now assumed that the desirability of some control of this particular communicable disease, tuberculosis, by municipalities and towns is admitted. This assumption, however, has been justified only very recently, for it is easily remembered that even physicians, not to speak of the lay public, felt until within a very few

years that the problem of control of a disease so slow in development, so long in its course, so varying in its communicability, so different, in other words, from the diseases usually called contagious, as tuberculosis is, is not capable of wise solution by any sanitary authority. The contest in favor of such control, however, has at last been won, at least in some places, and the question there now is how far such control should be exercised, and by what means it may be exercised.

The first question is naturally with what authority must boards of health be endowed to assume control? Nothing can be accomplished unless the boards of health in cities and towns have certain fundamental powers. The New York board has inherited the powers which have been at various times conferred through the different charters of the city of New York, and these powers have tended rather to grow than to diminish. Those powers most important for the matter under discussion are the following:

#### HEALTH BOARD'S POWERS.

The board may, when it deems necessary, require reports or information on all subjects relating to health. It may exact those reports from dispensaries, hospitals, asylums, prisons, schools,

\*Read before the New Haven Medical Society, Reprint from Yale Medical Journal.

theaters, and from private physicians.

It may remove to a proper place any person sick with any contagious or infectious disease, and it may build and control hospitals for the reception of such cases.

It may forbid all communication with the house or family in which there is contagious or infectious disease.

It may make and enforce a sanitary code—i. e., a body of city regulations, in which it may list the diseases of which it will take cognizance, and it may embrace in this code all matter to which the authority of the board extends.

It may order renovation or repairs in a house, and if the orders are not carried out by the owner, may itself do what is necessary, and record the expense as a lien on the property.

Finally, it may enforce its orders under the penalty of a misdemeanor if the order is disobeyed.

Such authority as this is necessary before all suitable measures for the control of tuberculosis can be carried out.

The second question is, if the authority is granted, what measures may be adopted?

In the first place, it is necessary to know the problem. It is necessary, that is, to know what cases of tuberculosis are to be found in the area under the control of the board, and to know the distribution of the cases—i. e., the infected houses. Moreover, it is necessary to know in what condition those cases are; to know if they are cared for by private physicians, or if they are uncared for; and, if they are un-

cared for, it is necessary to know whether they are in a condition dangerous to the public health or not.

This information is obtained chiefly by compulsory notification and registration of cases—the first essential in the control of tuberculosis as of every other infectious disease. It has been found a useful wedge in introducing this requirement of notification, to exact the information first from the hospitals, dispensaries, and asylums before making it compulsory for physicians to report the case. In New York public institutions were required to report three and one-half years before the requirement was extended to physicians. In 1904, 11,500 new cases of tuberculosis were reported in Manhattan up to December 1st. In various minor degrees this information about cases is also obtained by the visits of patients to the health department clinics, and by the discovery of cases through medical inspectors, tuberculosis nurses, and other department employees.

In requiring notifications, it must be recognized next that physicians are not always prepared to make the diagnosis which they are expected to report, and are not always competent to make the diagnosis. As it is of the utmost importance that cases should be recognized as early as possible, aid must be given by the board. Just as expert diagnosticians are provided for the aid of physicians having cases of possible smallpox, scarlet fever, measles, and similar diseases, so aid may be extended in making the diagnosis of tuberculosis. This aid might extend to the point of providing expert diagnosticians to

make a physical examination, or to make a skiagraph of a suspicious case, and to report, but such aid has not been adopted at present. An aid which has been found most valuable to the board, and most helpful and welcome to practitioners, has been the provision of free examination of sputum. Such aid is a factor in increasing co-operation between the board and physicians. In the first eleven months of 1904, 15,294 specimens of sputum were examined in the laboratory of the New York City Health Department, and of these 5,537 were found to contain tubercle bacilli. The ease with which the laboratory can be consulted is much increased by the establishment of about two hundred stations in New York City, where the bottles, blanks, etc., for the collection of specimens of sputum can be obtained, and where the specimens may be left for department collectors.

With the knowledge of the cases there comes next the question: What can be done to prevent danger from them to the public? Cases fall roughly into three classes—those under private medical care; those under public medical, i. e., institutional, care; and those under no care. If the case is under the care of a private physician it may be assumed that the proper and necessary sanitary precautions are advised. The requirement of notification is here a useful hint to the physician that the sanitary care of the patient has a public interest. If the case is under institutional care, whether the institution be a general or a special hospital, prison, asylum, or school or home, the health department should exercise su-

pervision over that case. It should, for example, require that these patients be maintained in separate rooms or wards, and it should take cognizance of the disinfection employed. If the case is under no care there is every reason why the health department should take care, i. e., should advise and enforce its advice. To do this, it should provide three classes of institutions—dispensaries for ambulatory cases, hospitals for advanced cases, and sanatoria for incipient cases. All of these should provide treatment and instruction. Previous to 1904 ambulatory cases were treated in New York either in the classes of general medicine in the various dispensaries of the city, a disposition of them which inevitably led to their neglect, or in the very few special classes for tuberculosis which had been founded. On account of the totally inadequate attention given these cases, the Health Department Clinic for the Treatment of Communicable Pulmonary Diseases was fitted up during the early months of 1904, and was opened on March 1st in a new building especially designed for the purpose.

Its objects are the early recognition and accurate diagnosis of pulmonary tuberculosis, the careful supervision of persons receiving treatment, the continual observation at their homes of indigent and ambulatory cases, the provision of a municipal institution where cases of tuberculosis may be referred by physicians and others, the various charitable organizations, and institutions discharging patients, and the extension and strengthening of the sani-

tary control of tuberculosis by the department.

The staff consists of sixteen physicians, of whom twelve are volunteer, four nurses, two orderlies, and three cleaners.

From March 1st to December 1st, 9,712 patients have been received, of which 2,424 were new and 7,288 old.

The total number for March was 690, while the total number for October was 1,180, sufficient evidence that there has been a steady increase in the attendance.

#### VISITATION OF CASES.

The careful supervision of ambulatory cases implies the visitation of cases at their homes by a corps of aides, and for this purpose trained nurses, carefully selected, have been found to be especially efficient. There is now a staff of seven district tuberculosis nurses whose duties are to investigate cases of tuberculosis among the poor at their homes, to give the necessary instructions and to see that they are carried out.

The medical care of the tuberculous is often so largely a matter of nourishment that it is inevitable that the provision of suitable food, especially milk and eggs, should be a part of the work—and therefore the dispensary supplies milk and eggs to indigent cases. Here the investigations and reports of the nurses are invaluable, for the opportunities for fraud in seeking help and for pauperizing in offering such help are obviously large. Aid is obtained in this discrimination also from the trained workers of the Charity

Organization. Sanitary cuspidors are also supplied, and the simple possession of these becomes to the possessors an element in education. Not only do the nurses report on the economic status of patients, but also on the probable source of infection, the sanitary condition of the premises occupied, and the desirability or necessity of institutional care.

The principal reason for the existence of a Health Department hospital is the necessity of caring for cases which are forcibly removed from their homes. Such cases are frequently discharged from other hospitals as not amenable to discipline, but it is, of course, those very persons who are especially dangerous to the community, and who need especial care.

Another important class of cases is composed of those whose homes are notably unsanitary on account of poverty or overcrowding. At present the Health Department hospital for tubercular patients serves to some extent a double purpose, as it receives both advanced and incipient cases. With the expected provision of a sanatorium exclusively for incipient cases, the present institution will undoubtedly serve as the hospital for advanced cases. Some account of this hospital may be of interest. It is situated on North Brother's Island, has a sufficient capacity for about eighty patients, and is now composed of three pavilions. One is occupied by the female patients; a second by the more advanced and febrile male patients, and the third by the more favorable and afebrile patients.

The diet is liberal in both quality and

quantity. In addition to the regular meals there is an auxiliary diet to which the patients can help themselves at pleasure between meals. This is furnished by the presence in every ward of a table upon which are placed quantities of milk, raw eggs, sugar, lemon, cracked ice, and carbonic water. A number of patients are on an exclusive milk diet. They each consume from three to five quarts of milk a day, and many of these have shown remarkable gains in weight, despite the existence of active symptoms of the disease, such as fever, night sweats, etc.

There is a rising bell at six in the morning, at which all ambulatory cases are required to get up, after which the wards are thoroughly cleaned. First, all loose dust is removed by means of a damp cloth attached to a broom, and then the floors are thoroughly scrubbed. The meal hours for the patients are: Breakfast at 6:30 a. m., dinner at 12 m., and supper at 5 p. m. All patients must be abed and lights extinguished at 9:30 p. m. Rounds are made twice daily, morning and night, by the physician-in-charge or his assistant. In addition, the visiting physician, at least once a week examines carefully the new arrivals and bed patients and any ambulatory case who is in need of extra attention. It is intended that every ambulatory patient shall have a thorough physical examination at least every four weeks. The bed patients are, of course, examined as often as is necessary.

Drugs are little used, but the importance of living in the open air is impressed upon all patients and in most

instances these instructions are followed cheerfully. A solarium is now being erected to aid in this part of the treatment.

Rest is the main treatment used for pyrexia. All patients are warned not to take any exercise whatever unless specifically directed by physician, as it is thought wiser to err on the side of enjoining too much rest than to allow the patients to endanger their chances of recovery by indiscriminate exercise. For the cases in this hospital hardly any exercise is indicated other than slow, deep inspirations.

With the class of patients in such an institution discipline is the great difficulty. Great vigilance is required to keep the patients from expectorating on the grounds. Familiar and formal talks and lectures are given on the danger of the spitting habit, and the necessity for the destruction of the sputum. The aim is to get patients interested in the subject so that a strong public opinion in favor of all rules be formed and so that the patients may themselves promptly report any dangerous infraction of the rules on the part of any of their associates. The attitude of the patients towards the management is, with hardly any exception, one of friendliness and appreciation, and this friendly relation is of incalculable aid in the sanitary control of the institution. Rigid quarantine is enforced for the occasional refractory patient, who is dangerous to his fellow.

One of the patients is thoroughly drilled in methods and engaged at a monthly salary to attend to the emptying of the sputum cups and the destruc-



tion of the sputum. About 360 ounces of sputum are daily mixed with sawdust and incinerated in a crematory.

Every Monday, before the noonday meal, all the patients in the institution are weighed and the record is kept by the nurse. Excepting in the far advanced cases, most of the patients show a rapid increase of weight. Patients on milk diet seem to do exceptionally well in this respect.

The number of patients admitted during the year 1904 was 225; the number of deaths, 63. The high mortality figure is accounted for by the advanced stage in which many of the cases are received. There are two classes of cases, voluntary and forced-in, and the latter cases are, of course, almost invariably far advanced and soon succumb to the disease. The occurrence of death is often very sudden, the rest, hyperalimentation and hyperaeration sustaining the patients until their physiological functions suddenly fail and death ensues. In this way many deaths occur without apparent warning, and after little or no confinement to bed.

Upon admission, each patient is provided with a sputum cup or bottle and is instructed by the nurse as to the infectiousness of the sputum and the necessity for its destruction. His clothes are taken from him, are disinfected and stored until the time of departure, and in their stead he is provided with the regular institution uniform. Upon the patient's departure he receives a copy of the department's circular of "Information for Consumptives and Those Living With Them,"

printed in the language with which he happens to be most conversant. Each patient costs the department about \$1.50 per diem to maintain there.

#### RULES FOR NURSES.

The following extracts from the rules for nurses may be suggestive:

"1. The nurse is responsible for the cleanliness of her ward. She must under no circumstances allow dust to accumulate anywhere. The tops of windows, door, transoms, closets, etc., must be regularly inspected and kept dust free. All dust shall be removed by wiping with a damp cloth. The dust on the floor must be gathered by means of a broom covered with a damp cloth, and the floor scrubbed daily with hot soap suds. This cleaning must be completed before 9:30 a. m., which is the physician's hour for making rounds. Patients must not be allowed to brush clothing or shake blankets or bedding in the wards.

"2. Immediately upon the arrival of a patient at the Sanatorium it is the duty of the nurse to instruct him as to the infectiousness of the sputum and the necessity for expectorating into a cup or flask; also in matters of personal hygiene, such as the avoidance of soiling the hands, face, or clothing with sputum, the necessity of holding a cloth before the mouth when coughing, and of washing the hands before meals. The nurse must correct each time she observes the slightest deviation from any of these instructions.

"3. The nurse must allow no patient to be in the ward while the same is being cleaned. She will be provided

with a respirator, which she is urged to wear during this process to avoid the inhalation of infectious dust.

"4. The nurse must supervise the cleaning of the sputum cups and see that the helper detailed to do this work performs it in a thorough and efficient manner, so that there will be no spread of infection by these means. The floor and wainscoting of the vestibule in which the cups are cleaned must be washed daily with a 5 per cent. solution of carbolic acid. Sputum flasks must be cleaned by patients themselves, according to the following directions:

"The contents of the flask are to be emptied into the can used for sputum. The flask is then to be taken to the sink and thoroughly rinsed in hot water until clean, washed with a 5 per cent. creolin solution both inside and out, and finally filled one-third full with the same solution. The patient must then thoroughly wash his hands with soap and water.

"5. The nurse should supervise the ventilation of the wards and must, under no circumstances, permit the patients to raise or lower the windows. On clear, temperate, and windless days, all windows should be open. On stormy and very cold days, the windows should be closed to the windward and open on the opposite side. The nurse should use her discretion to obtain the greatest possible access of fresh air without creating marked draughts. During the cold weather the temperature of the ward should not be higher than 45 or 50 degrees F. All windows should be closed and the ward warmed during the half hour preceding the rising bell.

"6. Patients going out on pass must be provided with pocket sputum cups sufficient to last duration of the leave of absence, and also with the department's circular of 'Information for Consumptives.' This circular must also be given to patients upon their discharge from the sanatorium."

#### RULES FOR PATIENTS.

The rules for patients are the following:

"1. Never spit on the grounds, on the floor of the wards or toilet rooms, into the sinks, or anywhere except into the cup or bottle provided for that purpose.

"2. Carry your sputum cup or bottle with you wherever you go. Never leave it lying about on the grounds. If your cup is more than half full, exchange it for a fresh one at the place appointed for that purpose. If you have a bottle you must clean it yourself according to the instructions you will receive from the nurse. If you should accidentally spill the contents of your sputum cup, inform the nurse or orderly of the fact, so that the place may be properly disinfected.

"3. Never swallow your sputum. Don't cough unless you have to. Hold a piece of gauze before your face when coughing or sneezing. Avoid soiling your hands, face, or clothing with the sputum. Wash your hands before each meal.

"4. Unless instructed by the doctor or nurse to remain in bed, all patients able to walk must arise with the bell at 6 a. m. Patients must go to bed not

later than 9:30 p. m., after which hour no games will be allowed in the ward.

"5. Patients are not allowed in the wards while the same are being cleansed, nor at any other time during the day excepting by special permission of the doctor or nurse.

"6. Patients must not brush their clothing nor shake their blankets or bedding in the wards.

"7. Patients are not allowed to raise or lower the windows nor to meddle with the valves of the radiators. If there is too much draught, or if it is too warm, inform the nurse and she will make the necessary correction.

"8. Your chances of getting well depend largely upon the observance of these rules. It is, therefore, to your interest to obey them and to see that they are followed by the other patients. The individual who breaks these rules is your enemy and should be promptly reported to the doctor or nurse."

Control must be exercised by the Health Department over residences as well as over cases. Just as with contagious diseases, so the occupation of an apartment by a case of tuberculosis may leave the place in a dangerous condition, and it is necessary then either to disinfect the apartment or to renovate it. Experienced inspectors should visit places known to have been vacated by death or removal, and measures suitable for the particular place should be recommended and enforced. If the walls are filthy and in bad condition, renovation to be performed by the owners should be required; otherwise disinfection of the rooms by formalde-

hyde gas and of the infected goods and furniture by steam should be provided. Occupation of the infected places by others should be prohibited until renovation or disinfection is complete.

For completeness of control it is also necessary to take cognizance of early unrecognized cases and late unknown cases by broadest warnings and advice concerning the dangers of any infectious material coming from such cases. There are, therefore, necessary both wide distribution of circulars of instruction worded and in language adapted to meet the needs of different classes, and also specific regulations, efficiently enforced, prohibiting spitting in public resorts, conveyances and, in general, wherever in public the sputum may become dry and dangerous.

The outline so far given may indicate the most important measures in the municipal control of tuberculosis.

The results of this control can now be stated at least partly from actual experience.

In the words of Dr. Biggs:

"There has been a more rapid fall in the tuberculosis death rate in New York than in any other great city in the world, and this notwithstanding the fact that the conditions are in many respects much more unfavorable because of the very dense population in the great tenement-house district of the city, and the large element of foreign-born population. During the last ten years there has been a decrease of 40 per cent. in the death rate in children under fifteen years from pulmonary tuberculosis and tuberculous meningitis, and also a decrease of the same amount

in the total tuberculosis death rate in sixteen years."

Dr. Biggs also voices the feeling, I think, of all earnest students of the tuberculosis problem in saying that "tuberculosis is, of all the important infectious diseases with which we have to deal, certainly the most preventable",

and "the time is not far distant when those states and municipalities which have not adopted a comprehensive plan for dealing with tuberculosis will be regarded as almost criminally negligent in their administration of sanitary affairs, and inexcusably blind to their own best economic interests."

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## EXAMINATION QUESTIONS

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### Of the Colorado State Board of Medical Examiners, April Meeting.

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#### ANATOMY.

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*By S. D. Van Meter, M. D., Examiner.*

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1. Name the muscles passing from the scapula to the upper extremity.

2. a. What is the general function of muscles? .

b. What is the distinction between the *origin* and *insertion* of a muscle?

c. What are the usual classifications of muscles with regard to shape?

3. Name the bones of (a) the cranium; (b) the carpus; (c) the pelvis.

4. What is the classification of bones as regards shape, giving an example of each.

5. Describe the articulations of the elbow joint, naming ligaments and character of articulations.

6. a. Give the nerve distribution to the fingers.

b. Why does the tongue deviate to the paralyzed side in a complete hemiplegia?

7. Give the anatomical features of an indirect and a direct inguinal hernia.

8. What important vessels and nerves would be severed in an amputation at the junction of the lower and middle third of the forearm?

9. a. Name in order from before backward the lobes of the cerebrum.

b. Name the membranes of the brain and spinal cord.

10. Describe the location and relations of the stomach.

## CHEMISTRY.

*By T. W. Miles, M. D., Examiner.*

1. What is chemistry?
2. What is the difference between organic and inorganic chemistry?
3. Tell what you know about the "Atomic Theory."
4. What is chemical affinity?
5. What is a molecule.
6. What is meant by "chemical incompatibility"?
7. What is "catalytic action"?
8. Describe an acid, and an alkali.
9. What would be the result of mixing chlorate of potash and sulphur together? Why?
10. What is a precipitate?

## PHYSIOLOGY.

*By D. A. Strickler, M. D., Examiner.*

1. Define the science of physiology.
2. Describe the lymphatic system and give its functions.
3. Describe the blood and give its functions.
4. Give the normal temperature of the body and tell how it is maintained.
5. Describe the vaso-motor nervous system with its functions.
6. Name the organs concerned in the elimination of waste materials of the body, and give the character of material eliminated by each.
7. Define the terms: (a) tidal air; (b) complementary air; (c) supplemental air; (d) residual air; (e) vital capacity, as applied to respiration.
8. Give the functions of the spleen.
9. Give the functions of the liver.
10. Give the functions of the nasal fossae.

## PATHOLOGY.

*By L. C. Hedges, M. D., Examiner.*

1. Define the term pathology.
2. Describe a typical case of typhoid fever, giving causes, modes of conveyance and geographical distribution. State the morbid anatomical conditions that may be present.

3. Has diphtheria any specific germ? Describe the histological changes due to diphtheria.

4. Define tuberculosis, give etiology, state geographical distributions. What race is immune? State anatomical changes due to tuberculosis?

5. State the difference between ulcerative stomatitis and acute gastritis.

6. Describe a case of rheumatic fever. Is it a germ disease? What an-

atomical changes are due to this disease?

7. What is syphilis? How acquired? What anatomical changes may follow a neglected case? Is it ever cured?

8. Describe a typical case of scarlet fever.

9. Tell all you know about dysentery.

10. Define paralysis agitans. Give etiology. State morbid anatomy. Is it a germ disease?

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## PRACTICE OF MEDICINE.

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*By Sol G. Kahn, M. D., Examiner.*

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1. Give etiology, symptoms, course, and forms, also prognosis, of acute anterior poliomyelitis.

2. Describe a typical case of scarlet fever and outline the management of a case (omitting medication).

3. What are the physical signs of the various stages of pulmonary tuberculosis?

4. Give the etiology and describe the symptoms of idiopathic erysipelas.

5. Define stomatitis and mention its varieties.

6. How may peritonitis be differentiated from intestinal obstruction?

7. Where are gallstones formed and what symptoms are due to their presence?

8. State (a) the varieties, (b) the causes, and (c) prognosis of angina pectoris.

9. How do rheumatism and gout differ etiologically?

10. Give etiology, symptoms, complications and sequelae of cerebro-spinal meningitis.

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## SURGERY.

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*By P. J. McHugh, M. D., Examiner.*

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1. Define tetanus and give symptoms.

2. What is meant by the terms (a)

brush-burn, (b) Hutchinson's-teeth, (c) phlebolith, (d) white swelling?

3. Make a drawing of the brain

showing the motor areas on its outer surface.

4. Describe the steps necessary in tying the common carotid artery in its lower part.

5. Define hypospadias and epispadias.

6. Give symptoms of stone in the urether.

7. Give symptoms of fracture of the lower jaw.

8. What are the signs of a dislocation of the ulna backwards?

9. Describe method of plugging the posterior nares for epistaxis.

10. Enumerate the different kinds of fractures.

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### OBSTETRICS.

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*By C. K. Fleming, M. D., Examiner.*

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1. Describe the uterus.

2. What is hydrorrhea? What is mole pregnancy?

3. What is the treatment of threatened abortion?

4. How do you calculate the duration of pregnancy?

5. Describe the sutures, fontanelles and protuberances of the fetal head.

6. What is the mechanism of delivery in the R. O. P. position?

7. How would you diagnose the R. O. P. position, and how should it be managed?

8. What is kyphosis and scoliosis?

9. What are the indications of treatment in post partum hemorrhage?

10. What are the indications for the use of the obstetric forceps?

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AND WESTERN MEDICAL AND SURGICAL GAZETTE

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## EDITORIAL.

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### ABORTIVE NURSES' TRAINING SCHOOLS.

In the October number of this journal last year we discussed some of the abuses in training schools, and especially the graft of unnecessarily extending the course from two to three years. At the same time we condemned those schools holding out false pretenses on having absolutely short courses. We present here a prospectus of such a school:

"Dear Doctor:

"We are pleased to announce that we have successfully conducted our

Nurses' College now for four years. During this time one hundred have completed the course and they are doing excellent work in nearly every state in the union. The most flattering reports come to us of their successes. Nursing of every kind is discussed. We teach anatomy and physiology by outline. The outline, like a picture, when once impressed upon the mind can never be forgotten. Practical demonstrations are assiduously dwelt upon in teaching the chart, hypos, compresses, poultices, mustard plasters, ice bags, catheter, baths, packs, surgical instruments and



solutions of any strength, anesthetics, bandaging, preparation of sponges, ligatures, kinds of sutures, hygiene, asepsis, prophylaxis, changing of sheets, massage, obstetrical nursing, etc., etc. The strictest fidelity to the physician under all circumstances is insisted upon. The course is completed in six weeks. There is no drudgery of any kind. The whole time is consumed by study and demonstration. Our school also is a wonderful help to hospital graduates who wish to review. Caroline Reed and Catharine Morgan, Toledo Hospital, Ohio, say: 'We are surprised and delighted with the work.'

"Now, doctor, we desire to engage your kindest co-operation. In your daily rounds of service you often meet those whose present lot is a hard one and who possess the qualification for becoming good nurses. They cannot get into a hospital on account of age, or a lack of influence, or education; still they are in the world and must fight their way single-handed. No nobler vocation is open and no more magnanimous service can be rendered them by the physician than by his urging them to study nursing. Our course costs sixty dollars. This includes a hypodermic syringe, a thermometer, a book on massage and obstetrical nursing and a beautiful diploma upon graduating.

"As a remuneration for his services we present every physician with a draft of ten dollars for each student who, through his recommendation, completes the course; or, if preferred, we will make a reduction in the tuition of ten dollars for each one so recommended.

"As a guaranty that we will carry out to the letter every promise, we would refer to the Mercantile National Bank, or any Mercantile Agency of Pueblo, Colo.

".....

"Supt. Nurses' College."

It will readily be seen that the course of training proposed is ridiculously insufficient. It would seem that the principal return for the fee of \$60.00 is "a beautiful diploma upon graduating." In what respect this kind of a training school for nurses differs from the old diploma mills, now suppressed, but formerly so numerous in the medical profession, is not apparent. We have also in the last few years had similar samples in certain diploma hospitals, notably that of Niles, Michigan, and the other hospitals originated and conducted by the same gang.

It is to be noted that, according to this prospectus, there is no drudgery of any kind. It may be further noted that there is also no nursing of any kind, and, notwithstanding, they propose to graduate trained nurses. One might as well attempt to turn out a competent cook without the candidate having ever baked a loaf of bread.

There are two inducements offered for obtaining students to attend such schools. One is the fee to every physician recommending a student. Of course this is to be placed in the same category with the division of medical fees, which is sometimes done, but generally recognized as strictly unethical and improper. The other inducement is that it appeals to women (and men, we presume) whose qualifications are

not such as to admit them to regular training schools of good standing. In the prospectus these are specified as age, lack of influence, or education. Lack of influence is, of course, not worthy of consideration, because there is no reputable training school for nurses in which a "pull" is a requisite for admittance. When it comes to the question of age, it must likewise be recognized that the training is best given between certain ages. If the candidate is too young, his or her character is unformed, and the seriousness of life is not recognized, consequently attention to instruction is apt to be a minimum. If the candidate is too old, the possibilities of making a good nurse are greatly reduced.

It may be assumed, however, that the third consideration, namely, that of education, is the principal one. These short-course, fly-by-night colleges appeal especially to those whose education is essentially deficient. It is true that "no nobler vocation is open" to them, but it is equally as true that the noble

vocation may be very easily rendered an ignoble one by being crowded with the unworthy.

We concluded our former editorial in the following way, and think it as applicable to-day as then:

"Of course, the promises held out cannot possibly be fulfilled. A thorough training in nursing, no matter how diligent the pupil and exceptional the facilities of the school, is absolutely impossible in such a short period of time.

"When we add that schools proposing such courses usually conduct their instruction by correspondence and give no actual training, the absurdity of their claims becomes evident. If there is any profession in the preparation for which the principal constituent is, and must necessarily be, laboratory work, it is that of nursing. For her the laboratory work, i. e., the actual bedside nursing, is utterly indispensable.

"Therefore such correspondence and mushroom schools should be suppressed."

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## PROGRESS OF MEDICINE.

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### Diseases of the Digestive Tract.

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*Conducted by A. E. Engzelius, M. D., Denver, Colorado.*

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#### HYPERTROPHY AND STENOSIS OF THE PYLORUS IN INFANTS.

Wachenheim, in *American Journal of the Medical Sciences*, April, 1905, gives an excellent review of the literature on the above subject with a tabu-

lated synopsis of 35 cases recorded, cases that have come to autopsy.

The author reports a fairly typical case which came under his own observation, the history of which we quote in full:

"Thomas M., aged five weeks, was seen by me for the first time on September 29, 1904. His mother stated that uncontrollable vomiting had set in after the second week, although he had been exclusively breast-fed, the condition of the bowels meanwhile varying from constipation to moderate diarrhoea, with green stools. The family history was negative; her other child was quite normal.

"Examination of the infant revealed nothing except extreme loss of flesh and strength; abdominal palpation was rendered almost futile by the child's continuous crying. Dietetic experiments showed that albumin-water and ordinary barley-water were regularly vomited within twenty to thirty minutes, the curdled condition of the vomitus showing approximately normal acidity of the gastric juice. According to the mother's statement, the vomiting was forcible, not merely regurgitant; that it was not complete could be demonstrated with the stomach tube, whereby several ounces of fluid could be withdrawn from the stomach. Dilute barley-water and lime-water were usually, though not always, retained.

"After a week of observation I was led to suspect the presence of so-called congenital hypertrophy and stenosis of the pylorus; a positive diagnosis was, however, unattainable, for neither a tumor nor gastric peristalsis could be made out. Lavage was resorted to with some benefit; the vomiting had been, in a great measure, abated when the infant rather suddenly went into fatal collapse on October 13th.

"A partial, but sufficient autopsy

was obtained with considerable difficulty, and performed within six hours, rigor mortis being still present. On opening the abdomen the enlargement of the moderately congested liver and spleen attracted attention; the former organ completely overlapped the pyloric region, so that the almost cartilaginous mass of the pylorus could only be palpatated by working deeply underneath; it was evident that it could not possibly have been made out during life. Not counting the pyloric end, the stomach had an extreme length of 10 cm., and was distended with air and a gelatinous fluid; the walls of the organ were tense and of about normal thickness; the folds of its pale mucous membrane almost obliterated. The pylorus was 3 cm. long, of remarkably firm consistency, projecting into the duodenum like a cervix uteri; its diameter of 14 mm. was in marked contrast to the diameter of only 8 mm. of the empty, flaccid, and somewhat congested duodenum. The lumen of the pylorus barely admitted a director 2 to 3 mm. in thickness; its walls had a thickness of 6 mm., whereof the greater portion evidently represented muscle. The mucous membrane appeared perfectly normal, and was thrown into heavy longitudinal folds which must have rendered the already narrow orifice almost wholly impervious. The intestine was normal, save for a contraction and possibly deficient development of the lower ilium. The result of the autopsy was a positive diagnosis of hypertrophy and stenosis of the pylorus." The microscopic findings are carefully given later on in the article.

The difficulties of diagnosis are, at

times, very great; "in summer the possible combination of pyloric stricture with a digestive disturbance will almost always prove puzzling, especially as, among the poorer classes, the histories given by the mothers are unreliable."

Drawing his conclusions from a careful study of reported cases, Wachenheim says: "The keynote in this affection is the combination of obstinate vomiting, equally obstinate constipation and gradual loss of weight; an important point in the vomiting is its violence and close dependence on the

ingestion of food, the quality of which is almost immaterial; meanwhile the appetite, as might be expected, is ravenous; this complex of symptoms is highly characteristic."

The author is firmly convinced that this affection is not uncommon, and that the supposed rarity of the disease is due to an oversight and failure on the part of the attending physician to recognize its presence, most cases being passed by as mere gastrointestinal catarrhs. He believes that we have every reason to expect an enormous increase of material within a brief period.

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## Neurology and Alienism.

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*Conducted by B. Oettinger, M. D., Denver, Colorado.*

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### TREATMENT OF SCIATICA BY DEEP INJECTIONS.

A number of reports are at hand regarding successful deep injections for sciatica. Lange (*Muench. med. Woch.*, No. 52, 1904) obtained good results in five cases. He employed a solution of eucaïne B. in 0.8 per cent. salt solution. The injection was first made under the skin until a wheel was formed. The needle was then pushed down until a jerking of the leg showed the nerve had been touched. Then 70 to 100 cc. were injected. Local pain lasted several days, and in three cases a second injection was required.

Steuer (*Jour. de Med. de Paris*, No. 24, 1904) was successful in the use of

an injection of antipyrin in distilled boiled water. At intervals of a few days, deep injections were made in the muscles in the region of the nerve trunk. Injections simply subcutaneous must be avoided on account of pain.

Pascolette (*Gaz. degli Ospedali*, No. 70, 1904) injected a 50 per cent. solution of antipyrin into the muscles along the course of and especially at the site of the maximum pain with excellent results of amelioration and cure.

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### INJECTION OF MERCURY IN TABES.

Vaudy (*Le Marseille Medical*, No. 7, 1904) prefers for muscular injections, soluble to insoluble salts of mercurv.

and especially advocates a less toxic than the biniodide,—the benzoate of mercury. He begins with 3/10 grain and increases the dose daily by one-half this amount until symptoms appear. Diminishing to the dose tolerated, the same is indefinitely administered.

One case of tabes Dorsalis received 500 injections in three years, and three cases about 300. All of these patients presented symptoms of marked inordination. Their symptoms improved, but as some of the patients disappeared ultimate effects could not be recorded in every case.

#### APOMORPHINE IN CHOREA MINOR.

Tull (*Pro. Phila. Co. Med. Soc.*, January 31, 1905) records an exceptional result obtained from the use of apomorphine in a patient 15 years of age with chorea minor. The presenting symptoms were severe, the girl being very soon unable to stand or walk and developing an acute mania. Articulation was unintelligible and the lips were covered with a thick, tenacious mucus. Without improvement the patient received extract of hyoscyamus, with arsenic, strontium bromid, veronal, suppositions of opium, and also acetate of morphine. Finally 1/40 grain of apomorphine was administered hypodermically, which brought about a cessation of the incessant movement within three minutes. A 1/200 grain was then given every three hours by the mouth.

Gradual improvement took place

and at no time was there nausea or vomiting, and in a few days the patient was able to leave for the seaside.

The same writer lauds apomorphine in the delirium of acute alcoholism and also uses this drug in capillary bronchitis and bronchial catarrh of childhood. In the latter instance his dose is 1/200 grain by the mouth.

#### THE REST TREATMENT FOR NEURASTHENIA.

Hall (*Boston Medical Journal*, Volume 152, No. 2) takes issue with the usual dictum of rest-treatment for neurasthenia. The author makes a reasonable distinction between the fatigue in those cases and that due to muscular exertion, in that the former is due to worry. Fatigue due to worry is very persistent and, as a rule, is not relieved by physiological rest. He quotes Dana as saying that he has in vain looked for overwork as a cause of neurasthenia. Idleness as frequently precedes neurasthenia as work, while worry appears as a constant factor in the history.

Rest fails to supply the desirable frame of mind in neurasthenia conditions, in that it is necessary to withdraw attention from the fatigue symptoms. Work of simple character and in itself not fatiguing is the proper recourse. With this idea in view the writer places neurasthenia patients in a shop having them make pottery and weave under a teacher, and reports the most satisfactory results.

## General Surgery.

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Conducted by F. Gregory Connell, M. D., Salida, Colo.

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### TREATMENT OF JOINT TUBERCULOSIS.

Von Mosetig-Moorhof, in the *Wiener Klin. Woch.*, Dec. 8, 1904, states that he first injected iodoform emulsion into a tubercular knee joint toward the end of 1879. The result was relatively good and later this procedure was employed in the treatment of cold abscess.

As to the question of how the healing of the localized tuberculosis takes place Mosetig says the answer is, through cicatrization. The defect is healed after the elimination of the tubercular granulation through suppuration and a communication with the surface, or by absorption without any such communication, by the formation of bone, and the formation of healthy granulation tissue which soon absorbs calcium salts.

The true healing of a bone tuberculosis consists of the substitution of the pathologic focus by bony substance. And to this end he has striven, and met with success by the complete removal of the tubercular focus and then plugging the remaining defect with a provisional filling. This iodoform filling will gradually remove the granulation tissue.

This operative treatment will consist of:

1. A complete extirpation of the entire local tuberculous tissue in the bone or in the soft parts.

2. In the complete opening up of all the large and small bony defects and their complete filling hermetically, with his filling material.

His results are as follows:

From Nov. 1st, 1899, to Nov. 1st, 1904, he has treated 537 cases of joint tuberculosis.

Twenty-nine were absolutely too late, no operation was done.

One hundred and thirty-seven were relatively too late; mutilating operations were necessary.

Three hundred and seventy-one cases were treated by resection followed by iodoform filling, sixty-seven of these were under 10 years of age. All recovered and in a relatively short time the wounds were completely healed and the limbs useful.

Early radical removal of the infection is earnestly recommended in closing.

Adolf Lorenz, in discussing the above article, in the *Wien. Klin. Woch.*, Dec. 15, 1904, strenuously condemns the operative treatment of these tubercular joints and strongly advocates ambulatory treatment with apparatus. He gives the following figures in support of his position:

Since 1890 he has noted 827 cases of Koxitis. Of these 282 are not germane to the subject under discussion. Of the remaining 545, 347, or 63.6 per cent., healed without suppuration:

170, or 31.2 per cent., healed after suppuration, 146 with the establishment of a fistula, and 24 with absorption of the abscess. Thirty-two cases, or 5.2 per cent., did not heal and a chronic suppuration remained. Death occurred 9 times, 6 from meningeal tuberculosis and 3 from intercurrent disease.

As long as he is not certain that pus is present, he does not generally consider surgical treatment.

#### EXPERIENCES WITH IODOFORM BONE PLUGGING.

In the *Lancet*, Jan. 21, 1905 (J. A. M. A., Feb. 18, 1905), Von Mosetig and Jones, under this title state that the material employed consists of the following ingredients:

Pulverized iodoform, parts.....	60
Oil sesame .....	40
Spermaciti .....	40

At the temperature of the room this is a stiff yellow mass, but at about 120° F. it becomes liquid. After fractional sterilization and being well shaken it is ready for use.

The cavity of the bone must be thoroughly aseptic, all the diseased tissue completely removed, and absolutely dry. Mosetig uses an electric hot air blast. The filling substance then comes into immediate contact with the walls of the cavity. It sets in a couple of minutes and then the periosteum and other soft parts may be loosely sutured over it. A perfect circulation of these flaps is very important.

By this line of treatment defects in the bone disappear and the natural size

and shape of the bone may be completely restored.

J. Clark Stewart, in the *Northwestern Lancet*, Feb., 1905, speaks very favorably of this material under the title "Two Cases Illustrating the Use of Moorhof's Wax as a Substitute for Gauze Packing in Open Bone Cavities."

#### TREATMENT OF ADVANCED TUBERCULOUS DISEASE OF THE KNEE JOINT.

Wright & Haslam, at the 1903 meeting of the British Medical Association, *Brit. Med. Jour.*, Oct. 10, 1903, discuss this subject. They submitted questions to 240 representative members of the profession, and received replies from 75. Some of the questions, with a general view of the answers, are here appended:

*Indications for Operation*—Progressive disease, in spite of adequate treatment, especially if suppuration of commencing dislocation is present.

*Choice of Operation*—A considerable number always do excision, and more than half as many always do erosion. Partial operations are not in favor. In erosion the incision is made in a horse-shoe shape with division of the ligament or the patella. The patella is preserved if possible. The bone lesion is removed with scoop, gouge or curette, and an antiseptic applied.

The use of the tourniquet is about evenly divided.

Opinion seems to be evenly divided between the advantages and disadvantages of drainage. When established it is generally dispensed with by the third day.

The majority of operators use some form of antiseptic instead of simply an aseptic dressing.

#### 1,000 OPERATIONS FOR GALLSTONES.

The Mayo Brothers, in the *Am. Jour. Med. Sciences*, March, 1905, present "A Review of 1,000 Operations for Gallstone Disease with Special Reference to the Mortality." From June, 1891, to December, 1904, they have performed 1,000 operations upon the gall bladder and the bile passages, with 50 deaths.

As to the establishment of the mortality rate, attention is called to the great difference in the manner in which mortality statistics are compiled. They have established a splendid example, which it is hoped will be followed; i. e., taking the layman's view of the question and counting as a death each and every case that dies in the hospital.

In the benign cases, (960) there was 4.27 per cent. mortality.

In the malign cases, (40) there was 22 per cent. mortality.

Where the disease was limited to the gall bladder, including all non-perforative infections, the mortality was 2.44 per cent.

Cholecystostomies, (573) with 2.46 per cent. mortality.

Cholecystectomies, (186) with 4.3 per cent. mortality.

Benign common duct operations, (137) with 11.7 per cent. mortality.

Malignant common duct operations, 40 with 9 deaths.

The mortality of operations confined to the gall bladder should not be any greater than that following appendi-

citis in people of the same age and condition of health. But, as gall-bladder cases occur in older people, who are fat and frequently the subject of some serious degenerative changes, the contrast should not be carried too far.

The following paragraph is so full of import that it is quoted.

"We must not be too ready to diagnose cholecystitis without stones on operation, or we may cover a mistake in diagnosis, and send home an unrelieved patient with an unnecessary operation. Before a diagnosis of non-calcareous cholecystitis is permissible, the duodenum, stomach, pancreas, appendix, and right kidney must be examined, and, if the theory is correct, the gall bladder should be found thickened, of light color, with the lymphatic glands along the cystic and common ducts markedly enlarged. It should contain tarry bile and the mucous membrane should not only be thickened, but covered with little, fibrinous specks."

The report taken as a whole is a most forcible and logical argument in favor of the earlier radical treatment of disease of the gall bladder and ducts.

#### RUPTURE OF THE GALL BLADDER.

Benj. M. Ricketts, in the *St. Louis Medical Review*, Feb. 18, 1905, gives "An Historic Review of Rupture of the Gall-Bladder (Spontaneous and Traumatic, Operative and Non-operative)."

The author in the introductory paragraph states that the object of his paper is to present, as briefly as possible, the more important points of all available cases of spontaneous and trau-



matic rupture of the gall-bladder which have been reported to date, in the hope that the comparison of the results of operative and non-operative methods of treatment thus afforded may be of use to the physician and surgeon alike.

To facilitate this comparison he has divided the 203 cases mentioned in two classes: the spontaneous and the traumatic rupture, and each of these classes in turn into four divisions, each of which he treats in a separate chapter.

In chapter 1, under the heading of spontaneous rupture, he mentions 37 cases of spontaneous rupture of the gall-bladder which have been operated on successfully and shows that 80 per cent. of these have been females; that one or more concretions have been found in 72 per cent. of them; and that 80 per cent. of these successful operations have been cholecystotomies.

In chapter 2 he mentions 27 cases which have been operated on unsuccessfully and shows that they were equally distributed between males and females; that concretions have been found in about 60 per cent. of them; and that 80 per cent. of these unsuccessful operations have been abdominal sections.

In chapter 3 he mentions 6 cases which have recovered without operation and in chapter 4, 89 cases which have died without operation, showing that sex has been equally involved in these cases, and that concretions have been found in about 60 per cent. of them.

A final comparison shows the recovery of 58 per cent. of those operated on as against the recovery of only 6 per cent. of those not operated on.

In chapter 1, under the heading of traumatic rupture, he mentions 23 cases which have been operated on successfully, and in chapter 2, 3 cases which have been operated on unsuccessfully, death having been due to shock, infection, and hemorrhage.

In chapter 3, 14 cases are given in which death resulted without operation, showing peritonitis to have been the ruling cause of death, and in chapter 4, 4 cases which have recovered without operation, recovery having probably been due to drainage. Comparison of all traumatic ruptures shows the recovery of 88 per cent. of those operated on as against the recovery of only 22 per cent. of those not operated on.

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## Ophthalmology and Otology.

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*Conducted by Melville Black, M. D., Denver, Colo.*

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In the *Jour. A. M. A.*, January 7, 1905, Dr. Alvin A. Hubbell of Buffalo has an article on "Blindness and Oculomotor Palsies from Injuries not In-

volving the Optic or Oculomotor Nerves." After reference to the work of others on this subject, the author gives his own conclusions based upon

ten cases. These ten cases are reported in detail. They are all cases in which an injury in or about the orbit had been sustained. In none of these, in the opinion of the author, was the injury sufficient to cause direct injury to the contents of the orbit, nor to cause fracture of the orbital walls. He therefore concludes that the oculomotor palsies and atrophy of the optic nerves that followed immediately after the injuries were due to reflex causes.

In his cases a lesion was found in some one or more branches of the fifth nerve, the infraorbital, nasal, frontal or supraorbital. He thinks that it is not at all remarkable that injuries to the fifth nerve might so react upon the vasomotor nerves and nerve centers as to interfere with the nutrition of the eye, to check its movements, and even to suspend, partially or completely, temporarily or permanently, so delicate a function as vision. The author says, "When I recall the anatomy of the bony structures immediately surrounding the optic nerve, and the difficulty of fracturing the canal through which this nerve enters the orbit, and when I stop to think that it is most difficult to implicate any of the other orbital nerves in a fracture that would involve either the sphenoidal fissure or the orbital walls, I am led to question the sufficiency of the fracture theory in the class of cases which I am discussing, and am inclined to accept, at present, for want of a more satisfactory explanation, the reflex theory."

Just such cases as are reported by the author we all see and marvel at, be-

cause the injury is so insignificant in comparison with the disastrous results which follow to vision or the motility of the eye. I have in mind a man who came to see me about two years ago, and of whom I have again recently heard, who was the unfortunate victim of such an accident. Four months previous to the time I saw him he was pulling down some pine wood, two inches square by four feet long, with which to fire an engine. One of these pieces slipped and struck him over and below his left eye. The eyelids soon became echymotic and swollen. The part was covered with a dressing and bandage and he did not try to see with the eye for a few days. When he did try he found it was blind. There has been no return whatever of vision. The vision in the fellow eye was normal.

My ophthalmoscopic examination showed an atrophic optic nerve in the blind eye. I have recently received a letter from an ophthalmologist in Iowa stating that the man is now under his care, and that his once good eye is now almost blind from atrophy of the optic nerve. Except for the subsequent atrophy and blindness in the eye remote from the injury my case is a fair example of several reported by Dr. Hubbell, who believes that such injuries are hardly severe enough to cause fracture at the apex of the orbit. I have also felt the same way about it, but it would seem to me that it is just as possible that the optic nerve might be injured by such blows about the orbit as that the fifth nerve should be injured. We do not have an opportunity to see the conditions postmortem because the in-

juries are not sufficient to cause death, hence the actual etiology must remain obscure. It will do no harm to remember Dr. Hubbell's reflex theory,

since it may encourage us to endeavor to do something which, were fracture alone considered the cause, might be left undone.

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## Gynecology.

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*Conducted by O. M. Shere, M. D., Denver, Colo.*

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### THE SURGICAL TREATMENT OF IDIOPATHIC PRURITIS VULVAE.

Barker (*Ill. Med. Jr.*, January, 1905) maintains that though generally pruritis vulvae is considered to be a secondary condition, half of the cases belong to the idiopathic class. Kelly believes that in these cases there is a subacute inflammation of the deeper layers of the skin and of the nerve endings.

Whatever may be the cause or pathology of this condition it is most interesting and seldom yields to external applications or internal treatment.

The subjective symptoms are few: itching, burning and smarting; while the effects on the general health are serious.

The disease is most frequent after the menopause.

A local examination frequently reveals no abnormality. Sometimes there are whitish patches scattered over the vestibule which seem dry, but bleed freely when cut. Frequently there are long, pinkish or yellowish markings or excoriated spots due to the scratching. The tendency of the disease when established is to steadily progress and undermine the vital forces.

The surgical removal of the disease is accomplished as follows: The first

incision surrounds the vaginal outlet at the hymen; the second circumscribes the meatus urinarius; the third commences at the junction of the skin and mucous membrane at the forerchette, continues along the border of the cutaneous surface until nearly opposite the meatus, when it diverges, so as to include the labia neajora and urinora and also the clitoris. If the skin is involved at any point, the incision is made to include it. All the tissues included in these incisions are removed. The denuded areas are covered by the easily movable, adjacent cutaneous surfaces, which are united by buried silk-worm-gut sutures. Sometimes the cutaneous surfaces that are to cover the vestibule lying between the meatus and the roof of the outlet can not be brought together without too much tension. This is remedied by dissecting up the flap on each side for a short distance. The writer has operated upon twelve cases in this manner, nine of which have been two years or more without a return of the trouble.

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### THE USE OF GERSUNG'S PARAFFIN INJECTION IN GYNECOLOGICAL WORK.

Stotz (*Monatschrift f. Geb. u. Gyn.*, XX, 6) has employed subcutaneous in-

jections of soft paraffin in cases of incontinencia urina and of prolapsus uteri and vaginae.

In cases of complete defect of the urethra the injections are made under the prolapse mucosa of the bladder. If the urethra is intact one larger injection near the neck of the bladder usually proves sufficient. But there is always the danger of embolism following the injection, and, therefore, operative methods must be given preference and the injections reserved for cases in which an operation for certain reasons becomes impossible.

The same is true for large injections under the vaginal mucosa, as successfully employed in a few cases of extensive prolapse of the vagina or uterus. Here, first, the pessary and then operative interference must be considered, before Gersung's method is resorted to.

#### SUSPENSION OF THE UTERUS.

Beyea (*Uni. of Pa. Med. Bull.*, Nov. 1904) reports his experience in 465 cases of retrodisplacement of the uterus treated by ventrosuspension. The cases were instances of retroversion of the third degree, where the fundus lies lower than the cervix; of retroversion-flexion, in which the retroversion is combined with backward flexion of the body of the uterus; a few cases of retroversion of the second degree, where the uterus lies transversely across the pelvis, the fundus and the cervix being on about the same level; and retrodisplacement, complicated with laceration of the cervix and perineum.

Acute cases are those resulting from parturition or accident and discovered within six months of their occurrence. Chronic cases are those which have existed longer than six months. In Beyea's experience the former are rare. In the chronic form there are passive hyperemia, hypertrophy and hyperplasia of the endometrium and slight changes in the tubes and ovaries. Such cases often give a history of having been treated for nervousness, neurasthenia or nervous prostration. Menorrhagia, leucorrhoea and dysmenorrhoea result from the hyperamia of the uterus and hypertrophy of the endometrium.

The treatment is surgical. A pessary may keep the uterus in position as long as it is worn, but it never cures the disease. It only produces irritation and does harm. There are three classes of operations:

1. Ventrosuspension of the uterus.
2. External shortening of the round ligaments (Alexander-Adams operation).
3. Intra-abdominal shortening of the ligaments (Mann-Gillingham). Each has its strong advocates.

In the writer's experience of 465 cases, in eleven years, ventrosuspension has ever produced the best results. It proved efficient, and has never been the cause of abnormal gestation or complicated labor. The complications which are sometimes reported Beyea believes to be produced by the particular method of suspension and should not reflect upon the operation itself. Ventrofixation and not ventrosuspension is done. While one operator errs on this side, another fails to

gain a suspensory ligament of sufficient strength to cure the disease and the operation is condemned because of recurrence.

In making up the statistics of this method of doing the operation, Beyea received replies from 272 of 465 patients. Eighty-five per cent. (231) state that they have been completely relieved and enjoy excellent health. Ten and one-half per cent. (28) state that the greater part of the symptoms have been relieved, while but four and one half per cent. received no benefit.

The backache was completely relieved in 79 per cent. of the cases; the headache in 83.5 per cent; the nervousness in 69.5 per cent. Seventy per

cent. have gained in weight. In 23 per cent. the improvement began immediately or very soon after the patient reached home; 30 per cent. improved in from one to five months; 26 per cent. in from six to eleven months; and 12 per cent. after one year.

In regard to the important question of the influence of the operation upon gestation and labor, the essayist found that of the 153 married women 41 became pregnant after operation, several repeatedly, making 47 births. In but two cases (about the usual proportion) was there a prolonged labor. One death took place in the series, a mortality of less than one-fourth of one per cent.

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## Foreign Literature.

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*Conducted by Wm. J. Baird, M. D., Boulder, Colo.*

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### DUNBAR'S SERUM IN HAY FEVER.

From the pollen of different plants a toxin is extracted. With this horses are injected hypodermically, and, after two to three months, antitoxins are formed. The serum is used locally, a drop or two of the fluid preparation (pollantin) being placed in the conjunctival sac or nose several times daily. The serum is also furnished in powder form. During treatment the patient must sleep with closed windows. Five hundred and five cases have been treated, of which 299 have been cured, 143 helped, 63 uninfluenced. —*Muench. Med. Woch.*

### PRIMARY TUBERCULOSIS OF THE STOMACH.

Ernest Ruge, of Bonn, found in the literature only four cases, perhaps only two, of tuberculosis of the stomach, the lungs being free from the disease. Petruschky diagnosed two cases (1899) but they did not come to autopsy. Sitten (1901) reports cases of tuberculous ulcer of the stomach (autopsy) without the slightest trace of tuberculosis elsewhere in the body.

Ruge reports the following cases: A male, aged 50, came to the clinic in April, 1903. He complained of intense pain in the stomach, loss of appetite,

and tension in the region of the stomach. The sickness dated back several years, the patient being much worse during the last two years. During the last year he had lost 31 pounds in weight. Since March he had been vomiting. Free Hcl was absent.

Operation revealed marked dilatation of the stomach and pyloric stenosis. The patient was dismissed July 6, 1903, cured.

He returned in February, 1904, having a left-sided, and later a right-sided, pleurisy with serous effusion, which called for repeated aspiration. There was gradually increasing weakness, and death occurred in June, 1904.

The clinical diagnosis was carcinoma ventriculi with numerous metastases. The anatomic diagnosis was carcinoma ventriculi, metastases in the ribs, pelvic and inguinal lymph glands, pleuritis and peritonitis carcinomatosa.

Microscopic examination revealed the fact that the lesions were not carcinomatous but tuberculous. The numerous tumors were masses of caseous material, the margins showing a few typical tubercles. There were tubercular ulcers in the small intestine. There was no trace of tuberculosis in the lungs, bronchial glands, tonsils, or lymphatic glands. The ulcer involved the musculature.

Stomach trouble was frequent in the family and the patient had had stomach trouble for thirty years.

The number of large tumors with tendency to necrosis resembled the perlsucht of animals. Especially suggestive of perlsucht was the appearance of pleural tumors.

Ruge advances the opinion that this was a case of infection with bovine tuberculosis, very likely acquired from the milk of tuberculous cows.—*Beit. z. Klinik d. Tuberculose*, 1905, Heft 3.

#### TUBERCULIN IN THE TREATMENT OF TUBERCULOSIS OF THE EYE.

A. von Hippel (*Graefe's Arch. f. Ophth.*, Band 59, Heft 1; Ref., *Muench Med. Woch.*, No. 38, 1905) within the last ten years has treated 50,000 patients suffering from eye troubles, and of these there were 23 cases of tuberculosis of the iris, ciliary body, and cornea, one of the sclera, and three of the conjunctiva.

After excluding 13 cases cured but the cure not certainly attributable to tuberculin, 14 cases remained that were treated and cured by tuberculin, and, with the exception of one case that left the clinic prematurely, all remain cured after nine and one-half years—present writing.

Tuberculin T. R. was used and as follows: The beginning dose was 1/500 mgr. repeated each second day. This was increased by 1/500 mgr. provided there was no reaction. The temperature was taken every two hours. When the dose reached 2/100 mgr. the succeeding dose was increased by 2/100 mgr., and from a dose of 20/100 mgr. an increase of 10/100 mgr. each dose provided the temperature continued normal. If the temperature rose above 38° C., the same dose was repeated and not increased until it was borne without rise in temperature. Within the last few years he has not

found it necessary to go above the dose of 1 mgr. of the dried substance, as he had succeeded in curing the worst cases of eye tuberculosis without reaching even this dose. He warns against beginning with large doses.

If the cure is to be permanent, the treatment must be continued until all tubercles are replaced by scar tissue, swelling and vascularization of the iris, precipitates on the posterior surface of the cornea, and cloudiness of the lens have disappeared. In the worst cases this may mean treatment continued for six months or even longer.

The results have been extremely satisfactory. Cases in which vision was already entirely lost, were cured and vision restored. The three cases of conjunctival tuberculosis resulted in a complete cure with no adhesions.

v. Hippel closes as follows: In view of these results I consider it fully established that in tuberculin T. R. we possess a remedy that will cure the worst cases of tuberculosis of the eye,

thus saving eyes that heretofore would have been enucleated. When we remember that the tuberculin injections properly given are without danger to the patient, and that even death from meningitis has followed enucleation, it is seen to be the imperative duty of the oculist to submit these cases to the tuberculin treatment.

Jacoby (*Berl. klin. Woch.*, No. 9, 1905, page 25) reports the following case of iris tuberculosis with heavy clouding of the lens. Treatment was with tuberculin according to von Hippel's method, beginning with a dose of 1/500 mgr. The susceptibility was so marked that the dose could be increased only at long intervals. The highest dose reached was 6/500 mgr. and this only after 12 weeks. There was rapid resorption of the tubercles, disappearance of the newly formed blood-vessels, clearing of the lens, and ultimately complete cure. The patient increased in weight during the treatment.

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## SOCIETY REPORTS.

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### The Denver Clinical and Pathological Society.

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The regular monthly meeting of the Denver Clinical and Pathological Society was held in the California Building March 10, 1905, the members being the guests of Drs. Lyman, Mann, Whitney, Perkins, and Kenney, the president, Dr. Hill, presiding.

The records of the last meeting were read and approved.

*Dr. Waxham* exhibited a cast of a portion of the intestine from a male suffering with an acute attack of gastro-enteritis. Lavage, and intestinal washing with turpentine and suds was done, followed by the expulsion of a tough fibrous cast of the bowel. Under the microscope connective tissue was found but no epithelium. Discussed

by Drs. Freeman (who related a similar case) and Bergtold.

*Dr. Coover* reported a case of traumatic cataract from an explosion, one foreign body being found in this (the right) eye, while the left contained two foreign bodies and a wound of the corneal margin with detached retina. Skiagraphs of the case were also exhibited. Discussed by Dr. Black.

*Dr. Kenney* exhibited photographs of a girl 18 years of age showing a deformity of the neck caused by a growth of hair from the head to a point at the upper border of the scapula on both sides. Elliptical-shaped pieces of skin and fat, measuring 2x5 inches including the hair-bearing area, were removed from both sides and from the center of the neck, thus reducing the size from 18½ to 13½ inches. A photograph showing the results was also exhibited.

*Dr. Powers* reported the case of a man 30 years of age with comminuted fracture of both legs, compound on one side, dying from fat embolism in 33 hours from the time of injury. Discussed by Drs. Freeman, Hill, and Rogers, the latter reporting a similar case, death occurring from embolism on the twenty-first day.

*Dr. Freeman* discussed the subject of the etiology of appendicitis, and held that the main factor in the causation in about 80 per cent. of cases was a shortening of the mesentery, this causing a kink in the appendix, the inflammation appearing on the distal side of the kink and interfering with drainage. Discussed by Dr. Powers, who

said that in many cases the shortening was at the end of the appendix and that, in his experience, the greater number of appendices were straight. Also discussed by Dr. Perkins, who found the kink present in many cases accompanied by pain, but that in the sloughing cases the kink was not visible. Discussion was closed by Dr. Freeman, who said that the kink was present in a majority of cases to a degree sufficient to interfere with drainage.

*Dr. McNaught* discussed the recent statement of an authority on appendicitis in reference to the possibility of "impotence following operation." Discussed by Dr. Perkins.

*Dr. Wetherill* discussed the subject of acute nephritis following abdominal operation, and reported a case post-operative to ectopic gestation, with pronounced albuminuria, the urine being scant and ending with complete suppression and death. Discussed by Dr. Powers, who reported the observation of Dr. J. C. Munroe of the Boston City Hospital on post-operative albuminuria. He also stated that personally he believed in very thorough flushing of the bowels and kidneys preparatory to the operation. Also discussed by Drs. Bergtold and McNaught. The latter stated his belief that this condition, when occurring, was not always a sequence to major operations, and that in his opinion the anaesthetic was responsible in many cases. Dr. Van Zant mentioned six cases which had come to his attention in which pus was present in the urine after operation, and Dr. Hill reported



two pus cases followed by acute nephritis. Dr. Sewall reported his observations concerning acute indigestion, stating that he had found casts in all cases, as a rule, and slight albuminuria in some. Dr. Freeman called attention to the fact that cases of albuminuria are not always preceded by surgical work and reported the case of a woman with suppression of urine after receiving an enema. Decapitulation of the kidney was done without any relief, death following. Autopsy disclosed no kidney lesion, but ulcerations of the colon, together with a small perforated abscess were found. Discussed by Dr. Freeman. Dr. Sewall reported the results of physiological experiments in clamping the renal artery in animals. A pressure of five minutes duration resulted in the production of albuminuria. Wetherill closed the discussion of this subject with the recommendation of the specific tr. apocynum cannabinum, or Canadian hemp, as a reliable diuretic.

*Dr. Hill* discussed deaths from empyema and other chest diseases due in many cases to failure on the part of the medical attendant to recognize the condition earlier, allowing operative interference to save life, and reported a number of cases.

*Dr. Blaine* discussed carelessness in the diagnosis of syphilis on the part of the medical profession.

*Dr. Van Zant* reported a case of sudden inspiration in a child, 9 years of age, suffering from pertussis. He thought it to be due to pressure on the phrenic nerve. Discussed by Drs. Kenney and Edson, both of whom considered "habit" the probable cause in such case.

*Dr. Waxham* reported a case of appendicitis in a boy 13 years of age, without fever at the time of the attack or for 36 hours previous, the onset occurring abruptly.

The society then adjourned. Members present, 26; visitors 2.

F. W. KENNEY, M. D., Sec.

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## BOOK REVIEWS.

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THE PRACTICAL MEDICINE SERIES OF YEAR BOOKS. Comprising ten volumes on the year's progress in medicine and surgery. Issued monthly under the general editorial charge of Gustavus P. Head, M. D., professor of Laryngology and Rhinology, Chicago Post-Graduate Medical school. *Volume X, Skin and Venereal Diseases.* By William L. Baum, M. D., professor of Skin and Venereal Dis-

eases, Chicago Post-Graduate Medical school. *Nervous and Mental Diseases.* By Hugh T. Patrick, M. D., professor of Neurology in the Chicago Polyclinic; clinical professor of Nervous Diseases in the Northwestern University Medical school. With the collaboration of Charles L. Mix, A. M., M. D., professor of General Medicine in the Post-Graduate Medical school of Chicago; pro-

fessor of Physical Diagnosis, Northwestern University Medical school.

To the general practitioner this volume presents a most interesting and attractive review of the work, to him generally unattractive subjects, during the past year. This series of volumes is one which should especially appeal to the general practitioner.

The review of the constitutional relation of skin diseases is an exceedingly valuable one, especially the discussion of the erythemata. The same may also be said of the chapter on syphilis, in which is discussed the relation of that disease to other animals besides man. Along with this the numerous other questions arising, in connection with this disease are likewise presented.

In the subject of nervous diseases, the discussion of the neurone theory, which has recently been attacked, and the recent information concerning symptomatology and diagnosis are of special importance. Numerous interesting phases of neural and mental diseases are ably presented.

The work is well illustrated with strikingly characteristic illustrations.

#### SURGERY OF THE HEART AND LUNGS.

A history and resume of surgical conditions found therein, and experimental and clinical research in man and also animals, with reference to pneumonotomy, pneumonectomy and bronchotomy, and cariotomy and cardiorrhophy. By Benjamin Merrill Ricketts, Ph.B., M. D., member of the American Medical Association; Western Surgical and Gynecological Association; International Medical

Congress, 1887; International Association Railway Surgeons; Miss. Valley Medical Association; Cincinnati Acad. of Med.; Ohio State Med. Soc.; Am. Proctologic Soc.; Honorary Member Med. Soc. State of N. Y.; Honorary Member St. Louis Med. Soc.; Fellow New York State Med. Assn., and Member Societe Internationale de Chirurgie. 1904. Grafton Press, pub., New York.

This is a handsome volume of some 510 pages. Issued by the Grafton Press, it leaves nothing to be desired in the way of mechanical makeup. Paper, typography and illustrations are of the best.

The principal value of this work lies in its assemblage in one volume of the results of the bibliography of the subject under consideration. In a general way, our present knowledge of the surgery of the heart and lungs is here represented. A striking exception, however, may be noted in the almost total absence of reference in surgery of the lungs to the surgery of tuberculosis. While he states that "In tuberculous diseases, 60 per cent. recover," and also, "These figures ought to be conclusive evidence that surgical interference in these cases is justifiable," there is scarcely any reference to the subject in the entire work. The work is largely made up of bibliographical considerations, and, in so far, will furnish a very satisfactory reference to those investigating the surgery of the heart or lungs.

There are certain faults in the volume which we can not help observing. The author's style is disconnected,

sometimes so much so that the relation between subjects spoken of consecutively fails to appear. There is also not sufficient attention paid to the subject of diagnosis as applied to the desirability of operative treatment, nor to operative technic. There are some chapters also which, so far as appears from the text, might as well be omitted from a work presumably strictly surgical; for example, chapters eight to thirteen inclusive, and chapters fifteen to seventeen, inclusive, together with similar chapters referring to the lungs. Why the subjects, cardiac foreign bodies, cardioliths, calcification, syphilitic gummata, gangrene, benign and malignant tumors, should be given place in a work of surgery of the heart and lungs when no surgical considerations of these subjects is given, is somewhat difficult to explain. In these chapters neither diagnosis nor treatment, either medical or surgical, are given even passing mention.

The work is well illustrated. There are some 87 full-page half tone plates. Most of these are good, very good, but few of them, and these reproductions of microphotographs, are disappointing to one who knows anything of histology, and some by their very title or the issues represented give rise to questions as to their relations with the subject of this work.

We notice that the author speaks of syphilitic gummata. This is a bit of carelessness scarcely excusable in an author. What other kind of gummata could he have under consideration?

**INTERNATIONAL CLINICS.** A quarterly of illustrated clinical lectures and especially prepared original articles on treatment, medicine, surgery, neurology, pediatrics, obstetrics, gynecology, orthopedics, pathology, dermatology, ophthalmology, otology, rhinology, laryngology, hygiene, and other topics of interest to students and practitioners. By leading members of the medical profession throughout the world. Edited by A. O. J. Kelly, A. M., M. D. Volume 1, fifteenth series, 1905. J. B. Lippincott & Co., publishers, Philadelphia and London.

"International Clinics" has long been a favorite with the medical profession, having a high standing on account of the high character of its articles as well as their timely interest. The volumes always contain a series of articles each one of which is of special interest either to the general practitioner or the specialist, most generally the former.

The subjects presented in the present number are neither those usually contained in periodical literature nor those treated of in the text-books, but treat of special questions which rise to the mind of the thinking practitioner, and are presented with all the advantages permitted by the clinical style. The value of the present number lies not only in the value of the material actually presented, but also in the suggestions which they bring to the reader.

With such a wealth of truly valuable contributions it is difficult to select any of them for special mention without unjustly discriminating against the

others. However, certain of them are of such unusual interest that we venture to do so. Among these is that of "Skin Grafting in the Late Treatment of Severe Burns Involving Extensive Areas of Skin," by Archibald Young, M. B., C. M., B. Sc. In this the indications and technic are given at length, fortified by reports of a dozen cases.

Another article rich in suggestions is that by Robert H. M. Dawbarn, M. D., "On the Starvation of Malignant Growths by Depriving Them of the Blood Supply." This he recognizes is not a curative operation of carcinoma, but states that for sarcoma the outlook is particularly favorable, there being cases on record in which, after three to seven years, there has been no recurrence of tumors which were growing rapidly before ligating the carotid.

In medicine we cannot recommend too highly the article by James J. Walsh, M. D., Ph. D., "On the Eye and the Hand in the Diagnosis of Heart Disease." Every practitioner could well profit by it. Others of similar interest are those of the "Early Diagnosis of Heart Diseases in Children," by J. Parkinson, M. D., and "Intestinal Adhesions and a Report of a Case Illustrating Elasticity of the Hepatic Support (hepatoptosis), by A. L. Benedict, M. D. Indeed we might really go on mentioning nearly every article in the volume.

In addition to these original communications, some hundred pages are devoted to the review of the progress of medicine during the year 1904. The

volume is well gotten up and well illustrated.

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#### MODERN CLINICAL MEDICINE.

D. Appleton & Company expect to publish at short intervals a translation of "Die Deutsche Klinik," a publication which is being brought out in parts in the German language. The articles upon the various diseases have been written by the most eminent men in Germany. Professors Leyden and Klemperer are the editors of the German work, and the articles are written by such well-known authorities as Leube, Ewald, Boas, Baginsky, Liebermeister, Eichhorst, Strumpell, Jorgensen, Ehrlich, Grawitz, Binz, Nothnagel, Gerhardt, Loeffler, Krafft-Ebing, Hofa, Ortner, Kaposi, and many others whose names are as familiar to you as the above mentioned.

It is the plan to publish this work in several volumes, and the entire work will be translated and edited under the general supervision of Dr. Julius L. Salinger of Philadelphia, Pa. Each volume in the series will have a special editor.

The first volume of "Modern Clinical Medicine," "Infectious Diseases," will be published on the 3rd of May, 1905. This volume will be edited, with annotations, by Dr. J. C. Wilson, Professor of Medicine at the Jefferson Medical College, Philadelphia, Pa. The second volume, which will appear shortly after the first, will consist of "Constitutional Diseases and Diseases of the Blood."

# The Colorado Medical Journal

AND

## WESTERN MEDICAL AND SURGICAL GAZETTE

*A Scientific Medical Journal, Devoting Special Attention to Tuberculosis and Climatology—A Journal of Science, of News, and of Medical Lore.*

VOL. XI.

DENVER, COLORADO, JUNE, 1905.

No. 6

### ORIGINAL COMMUNICATIONS.

4110

#### Cottage Treatment of Tuberculosis.\*

By J. D. BENNETT, M. D., Crystal River, Fla.

St. John on the Isle of Patmos, years and years ago, saw Death riding a pale horse, scattering firebrands, arrows, and destruction everywhere; and we of these later centuries have seen too often the print of the dread charger's feet, as we are called to combat with almost useless drugs the Great White Plague, consumption.

Perhaps no disease is more thoroughly and persistently drugged, and in no disease are drugs so unavailing as in this malady; because of the nature of the disease, its long continuance, and its alternations of improvement and relapse, giving hope to the failing sufferer, but always steadily, silently, pursuing the decline to the grave.

Perhaps no disease pays a physician so little, and, *sub rosa*, in no disease does he accomplish so little. Esculapius himself was struck dead by a thunderbolt from Jove on complaint from Pluto that if he kept on curing mortals and teaching them how to live,

Pluto's realms would be depopulated. Were Pluto running his establishment at this day, three thousand years after Esculapius, and could read the reports of death from consumption in New England and pneumonia in Chicago, it is to be feared that he would encourage physicians to continue filling his dominions.

But Esculapius left a blessing to the world in his daughter Hygeia, who inherited much of his wisdom. And in these days of bachelor maids and equal rights, it is but fair to note that in the treatment of consumption, her particular remedies of pure air, sunshine, and outdoor exercises combined with pleasant surroundings, are our best aids in combating the disease.

In the splendid climate of South Georgia and Florida, hygienic principles can be carried out to perfection and with real pleasure to the patient.

I would recommend that such patients live in cottages, boarded up, with

\*Read before the American Anti-Tuberculosis League, Atlanta, Ga., April 19, 1905.

openings at the roof, where walls and roof fail to meet. Any camp carpenter will provide the requisite ventilation. Let these have open fireplaces, and let the patients burn pine knots for fuel. Such cottages can be built, costing less than those in the Adirondacks, or more, according to the taste and circumstances of the patient. Seventy-five or a hundred dollars would easily cover the cost of such a cottage, and each one might accommodate two or three patients, and could be rented for from four to six dollars per month. Even in our coldest weather such a house would be comfortable, and the patient would have all the pure air and sunshine he could absorb. Combined with these he would breathe the resinous smoke of the pine knot fire, which we "Crackers" know is the most cheering, heartening light on earth, with the creosote from the oak "back log," and if your patient is fortunate enough to be located on the coast, the abundant diet of fish and oysters will supply the phosphorous to build up the wasted tissues. If he has to catch these fish and rake the oysters from their beds, he will have plenty of outdoor exercise. And it will seem worth while to take it when the larder gets low.

The writer came to Florida from Illinois twenty years ago, with cough, hemorrhage, quick pulse, and a general decline. He took a homestead several miles from civilization, and went with his family into the virgin forest to subdue the wilderness and make it blossom as the rose. The clearing of the land was done largely through his own efforts. The felling of the trees and cutting the branches apart was too

much for him in his weakened state, but he gathered the brush together in great heaps, and burned them himself, and the healing, life-giving breath of the pines was a balm to the diseased lungs; while his active life made him forget the sword of Damocles hanging over his head, and his busy ambition to make a home served effectually to banish the dread of his impending doom. Before a year was gone all threatening symptoms had disappeared, strength replaced weakness and he was able to pursue the particularly strenuous life of a country physician.

Had he been able to go to a hotel resort, and see the decline and death of other sufferers, the depression attending such scenes would probably have terminated in the almost inevitable result, and his life have paid the forfeit.

The day has come when everyone, from the proprietor to the boot-black, as well as the guests, look askance at the unfortunate consumptive as a person to be shunned. He is the skeleton at the feast, and in all their games and recreations he is avoided. Such treatment cannot fail to arouse his worst fears and greatly depress his spirits.

In a recent number of *McClure's Magazine* was pictured a row of consumptives on a snowy hillside, temperature 26 degrees below zero; the men were swathed in flannels, with hot rubber bottles, foot stoves and other heating apparatus, all trying to get a little fresh mountain air. As soon as they leave the hillside they must go back to close heated rooms to keep from freezing. I am told they are made

to sleep in tents in such weather, which seems more brutal than "cruelty to animals."

Contrast this with our beautiful Florida, where they can enjoy ten hours of sunshine every day, can breathe our balmy air, and sleep through our pleasant nights. Even at our coldest, our weather is no worse than a crisp, bracing, frosty night in New York. There is no necessity for sleeping in close superheated rooms, or to be swathed, heated, and steamed to be kept alive.

We tell our Northern friends to throw their water-bags to the winds, the foot-stools and physics to the dogs, and send their patients to Florida.

But let me insist upon it, do not send them to crowded hotels.

Let them buy or rent a cottage as described. Hotels are often hotbeds for disease. One known to the writer has a splendid cuisine, fine rooms, and regal prices. The rooms are luxuriously carpeted. When a carpet is a little worn another is laid over it until four or five thicknesses of carpet, stocked with dust and microbes, have accumulated. The walls are papered the same way. After some half dozen patients have occupied such a room for as many years, it is a death-trap for the healthy, to say nothing of the sick. This is never the case with our cottages, which can be whitewashed as often as required, and rendered perfectly sanitary.

Before your patients are too far gone, send them to Florida and send them to stay; for it is far better for a consump-

tive to remain if he is benefited by the climate. Let him find something to do that will afford him a living, and keep him employed, and let him make the place his home. Send us your patients, or, better still, come with them. Our climate will add years to your usefulness. Bring your wife: it will do her good, and our balmy air will so please her that she will forget to give you even a curtain lecture until next winter. Bring your minister, whether you attend church or not; his preaching will so improve as to lead you in the right direction. He will forget all about the severe doctrines of predestination and the burning lake. Bring your teacher. We in Florida think a Yankee school-ma'am knows it all, and she will have abundant opportunity to impart knowledge to our restless population. Tell her to bring her botany and microscope along. She will find an endless variety of flowers, endogens, cryptogams and mosses. All come, rent a cottage, and enjoy our beautiful Florida.

In conclusion: There are more than twenty-five hundred negroes in Citrus County, Florida. Nearly all of them live in turpentine, saw-mill, or phosphate camps, in about such cottages as described. As a class they live almost regardless of sanitary conditions, with the characteristic shiftlessness of their race. The only reason they do not pollute their premises is that they are not crowded together, each cabin having a space of ground surrounding the house.

In a practice of five years among them, I have scarcely seen a case of tuberculosis, and Dr. H. M. Taylor,

who does the practice for a large saw-mill and two turpentine camps, whose hands number something over 700, says he has seen but two cases of consumption for eighteen months. Contrast this with the health reports of our cities, even Atlanta, the city best located for health in the South, as she demonstrated when she so generously

opened her doors to refugees flying from Yellow Jack, which kindness we will never forget. Even there, I doubt not, the pale horse with the dread rider comes. And to other cities so much the more.

Again let me extend the welcome of our state. "Come with us and we will do thee good."

### Light—Its Therapeutic Importance in Tuberculosis as Founded Upon Scientific Researches.

By J. MOUNT BLEYER, M. D., F. R. A., M. S., LL. D., New York City.

Chairman on Light and Electricity, American Congress on Tuberculosis, held at St. Louis, October, 1904.

(Continued from the May Number.)

#### LIGHT—ITS EFFECT UPON COLORED JUICES OF FLOWERS AND OTHER PHENOMENA.

The action of light on the juices of plants has been carefully studied by M. Chevreul; but as his experiments were made with reference only to their permanence as dyeing materials, and with white light as it proceeds from the sun, they afford no information as to the influence of the separate rays, but, nevertheless, they are of vast value from a therapeutic point. This subject has alone engaged the attention of Sir John Herschel and Mrs. Somerville.

I shall mention, as briefly as is consistent with a correct understanding of the matter, several of the most remarkable results obtained upon vege-

table juices, referring all those who may desire more detailed information to his memoir itself.<sup>1</sup>

In the *Philosophical Transactions* for 1844 is published an extract of a letter from Mrs. Somerville to Sir John F. W. Herschel, dated Rome, September 20, 1843, on the action of the rays of the spectrum on vegetable juices. There is so much that is curious in this communication, that I have extracted a portion to show the character of the investigations in which that lady was engaged.

"In the following experiments the solar spectrum was condensed by a lens of flint glass of  $7\frac{1}{2}$  inches focus, maintained in the same part of the screen by keeping a pinhole, or the mark of a pencil constantly at the corner of the

<sup>1</sup>On the Action of the Rays of the Solar Spectrum on Vegetable Colors, etc. *Philosophical Transactions*, Part II, 1842.



red rays, which were sharply defined by using blue spectacles to protect my eyes from the glare of light, and the apparatus was covered with black cloth in order to exclude extraneous light.

"Thick, white letter paper, moistened with the liquid to be examined, was exposed wet to the spectrum, as the action of the colored light was more immediate and more intense than when the surface was dry. As I had not access to the morning sun, the observations were made between noon and three in the afternoon."

Mrs. Somerville approached very near to the discovery of the extra spectral rays of Stokes, as the following paragraph shows.

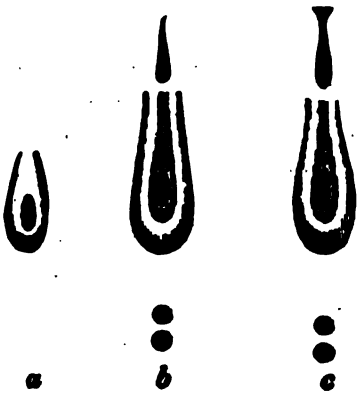
"The lavender rays came vividly into view; under a condensed spectrum, on white paper washed with a solution of sulphate of quinine in dilute sulphuric acid, they were narrow and their length by rough measurement was equal to the distance between the upper edge of the violet and the lower edge of the blue. They were very brilliant on black silk or other dark surfaces, and invariably of lavender color; and even on paper stained with turmeric, the pale yellow rays which you had observed were tipped with lavender on being washed with the liquid, though its duration was only momentary, as it vanished as the surface became dry; but they were permanent in other instances.

"The lavender rays change their color with a change of the liquid; for instance, they are lavender color on nitrate of silver discolored by light to a very pale brown, washed with a solution of sulphate of quinine in dilute

sulphuric acid; whereas, on a similar surface of pale brown nitrate of silver, washed with the juice of the petals of the pale blue *Plumbago auriculata* in distilled water to which sulphuric acid was added, they appeared of a vivid apple green, and acquired a tip of lavender color on the surface being washed with a solution of sulphate of quinine in dilute sulphuric acid of considerable strength. The effect, however, was transient. After several unsuccessful attempts to repeat this experiment next day, I at length discovered that its success depended upon the acid being strong enough to decompose the juice and give it a reddish orange hue, and even then the rays are not vivid till the paper has been frequently washed with the juice and become nearly dry; and the experiment is more successful when the liquid has been kept a night. The action of the surface in changing the color of the lavender rays may be illustrated by passing the spectrum over paper coated with nitrate of silver brought to a clear yellow brown by exposure to the sun, one-half washed by the liquid in question, and the other half with a solution of sulphate of quinine in dilute sulphuric acid, and the first half of the lavender rays become vivid apple green, while on passing to the other half, they instantly changed to an equally vivid lavender color. These rays often darken the surface throughout their whole length; sometimes they acquire a powerful bleaching action, and sometimes they have no effect, as evidently appears from the following experiments:

"The juice of fresh-gathered petals of double flowering pomegranate in al-

cohol afforded an example of this." Paper washed with this juice became rich crimson, and, on being exposed wet to the condensed spectrum, a narrow line of deep crimson was formed at the junction of the green and yellow rays, or perhaps in the most refrangible yellow, surrounded by a whitish lozenge shaped border (a). On again washing the juice, instead of the white border, which had vanished, there was a crimson flame-shaped image, curved at the lower edge of the yellow rays, and tapering upwards to the violet; its color was darker than that of the ground,



though paler than the narrow line which maintained its intensity, and, although the latter increased in width, it did not become as broad as the image in question. At the upper end of the violet another little dark image was formed, apparently owing to the action of the lavender rays, having exactly their form; the orange and red rays, especially the red, had no effect, though at the distance of about half the length of the spectrum beyond the red, two distinct spots were formed of deep crimson, which I believe to be the best spots which you discovered. After

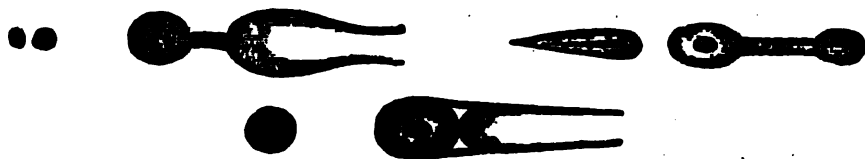
some time a bleaching appearance surrounded the whole image from the red upwards, probably owing to rapid evaporation from the heat of the spectrum (b).

"Exterior bleaching frequently took place in the course of the experiments, permanent in some instances, while in others it vanished as the surface dried. When water was used with the juice instead of alcohol, the general character of the image was similar to that described, except that the small figure beyond the violet was more distinct, and seemed to bear the same proportion to that formed by the rest of the spectrum which the length of the lavender rays bears to the length of the sum of the others; the bleached part round the whole was more extended and a faint crimson haze encompassed the dark spots, which were very distinct (c).

"The following are some of the cases in which the simultaneous effect was produced. For example, paper washed with the juice of the petals of *Globe amaranthus* in distilled water, on exposure to the spectrum, acquired a delicate pink tint which was soon bleached to whiteness from the upper edge of the green to the end of the lavender rays, while at the same time a perfectly circular spot of equal whiteness was seen under the red rays and a little way below them, which had the appearance of being an image of the sun. After more washing with the juice, the two bleached parts were united by a long white neck which speedily vanished, and was succeeded by a dark crimson image, whose greatest intensity of color was under the yellow rays. At some distance below

the red rays two crimson spots were strongly marked, especially the uppermost, both surrounded by a paler halo.

"The juice of the petals of pale blue *Plumbago auriculata* in distilled water imparted its tint to writing paper, which after exposure to the action of diffused light acquired a pale yellowish green hue. The part under the lavender and violet rays of the spectrum, repeatedly washed with the juice assumed a pale brown color. The indigo rays seemed to have no effect, although from their lowest edge to the distance of half the length of the spectrum below the red rays, a lavender blue image was formed.



Under the orange rays a minute indigo-colored spot appeared, and also a larger spot of the same color under the yellow, which were soon blended into one, forming a single oblong figure of maximum intensity, surrounded by a halo of paler indigo. An isolated disc of the same color as the halo, with two dark spots in its center, appeared at the same distance below the red rays.

"The juice of the beet-root in a strong solution of common salt, imparted a pink color to the paper, and the most refrangible rays acquired a powerful bleaching energy; the pink ground was whitened under the lavender, indigo and blue; a deep crimson spot was formed under the yellow, with a rose-colored halo, elongated to the bleached part on one side and to the end of the

orange on the other, while a hazy rose-colored disc was visible at a distance below the red. The crystallization of the salt on this figure was, in proportion to the intensity of color, most on the crimson spot and its halo, and on the colored disc, but scarcely any on the bleached portion."

The great number of instances now adduced in which we have distinct evidence of *chemical change* under the influence of the sun's rays appears sufficient to support the position, that the solar and electric arc-light rays are continually acting upon matter—it signifies little in what form it may be pre-

sented to their influence. We have distinct evidence that a sunbeam or the electric arc-beam cannot fall upon any solid body without leaving permanent traces of its action. Throughout all these cited experimental researches the observations have shown the fact only too plainly.

The most casual observer could not fail to remark the peculiar influences of the solar agencies at different seasons of the year. In spring a fresh and lively green pervades the field and forest; this in summer assumes a darker hue and in the autumn passes gradually into a russet brown. There is no doubt that there is a marked difference in the chemical action exerted by the solar rays an hour or two before noon, or an hour or two after it. I was con-

vinced at an early period of my experimental work of that fact, and the continued observations of some years prove that similar differences are to be detected between the solar emanations of the vernal and the autumnal periods (I have found these facts from some photographic experiments). The changes in the color of the leaves appear to be entirely dependent upon the absorption of oxygen which all the green parts of plants have the power of absorbing without intermission. This true case of chemical affinity, it would appear, goes on equally with the spring or the summer leaves; but during these periods the vital force, under the stimulus of the light, is exerted in producing the assimilation of the oxygen for the formation of the volatile oils, the resins and the acids. In the autumn this exciting power is weakened; the summer sun has brought the plant to a certain state, and it has no longer the vital energy necessary for continuing these processes. Consequently, the oxygen now acts in the same manner on the living plant as we find in experiment it acts upon the dried green leaves, when moistened and exposed to its action. They absorb gas and change color.

Sir John Herschel observes in reference to the action of light on the juices of plants: "The earlier flowers of any given species reared in the open air, are more sensitive than those produced

even from the same plant at a later period in its flowering, and have their colors more completely discharged by light. As the end of the flowering period comes on, not only the destruction of the color by light is slower, but residual tints are left which resist obstinately." These residual tints are the same which produce the brown of the autumnal leaf; and the same agent may be traced in the production of photographs upon papers spread with expressed juices and on the changing colors of flowers and leaves.

Here we come to another most interesting physical problem which holds our attention for a brief moment. We find that the woody fibre of plants and all the carbon which is found as an elementary constituent of the resins, gums, juices, etc., of the vegetable world, is derived exclusively from the atmosphere, to which it is supplied by the respiration of animals and all those processes of combustion which are continually going on. By some peculiar function these leaves of plants during every moment of their lives are absorbing carbonic acid. It has been stated that the reverse of this takes place during the hours of darkness, and that at night the leaves absorb oxygen, and exhale carbonic acid. It appears to me that this statement has been made without sufficient consideration, or the requisite experimental evidence.

(TO BE CONTINUED.)

## SELECTED ARTICLE.

**Adaptation and Tuberculosis.\***

By J. G. ADAMI, A. M., M. D., F. R. S., Montreal, Can.

McGill University, Montreal.

In casting around for some aspect of the tuberculosis problem upon which to address this meeting, it struck me that it might be serviceable to take up the matter of adaptation in its relation to the disease. The term possibly is unfamiliar to you, but it embraces a series of processes, both on the part of the organism—the human body—and of the micro-organism—the tubercle bacillus—which are of the highest importance. And I am of the opinion that it is the failure to realize the existence of these processes which renders it difficult for the majority of men to appreciate the various happenings in the course of this disease, and again the points at issue and their significance in the controversies that have arisen of late years regarding the same. It has seemed to me that all those—and they are many—who are interested in the work of prevention, would possess a more intimate appreciation of that work if they could acquire, as it were, a mental picture of the moves in the game, of those moves whereby now the organism, now the micro-organism seeks to gain advantage and checkmate the other. In truth, it is a gruesome game, but one of most vital import, this of the cells against the bacilli and

the bacilli against the cells. Some of our moves are instinctive, or have been practiced before against other bacteria; many have to be learned and tested during the course of play. Too often, not knowing the science of the game, and playing “Bumble puppy” (I forget its equivalent in chess), we make a wrong move at a critical moment, and the game is lost—and loss is death.

Let us consider first the moves on the part of the organism, and in order to gain a clearer picture let us take the case of a disease of briefer course and apparently more self-contained in its gross effects upon the body. Has it ever struck you, I wonder, what takes place in a case of acute pneumonia? This, as you know, is a bacterial disease, due to a micrococcus, a minute rounded or lancehead-shaped organism that hunts, if I may so express it, like the Irish Constabulary or the Northwestern Mounted Police of the old days, in pairs; hence we often speak of it as the diplococcus of pneumonia. You all know the disease develops very rapidly. That rapid development is associated with an extraordinarily rapid multiplication of the diplococci, so that these, which under ordinary circumstances are not present in the lung,

\*An address delivered at the annual meeting of the Dominion Association for the Prevention of Tuberculosis, Ottawa, March 15, 1905. Reprint from *American Medicine*.

come to be present in teeming millions in the air sacs of the same, and thereby their poisons set up so much irritation that all the air sacs of one or more lobes of the lung become solid through the intense inflammatory exudate that is poured out into them from the blood vessels, displacing the air that should be there. So it is that in a very few hours the affected part of the lung comes to look more like a piece of liver than like a sponge with abundant air in its cavities. Then, if all goes well, in four, six or eight days, suddenly in the course of a few hours the crisis comes, the fever drops sharply, the patient feels better, and after this crisis we find the diplococci for the most part dead, or if not dead, so weakened that they can have little effect on small animals.

This has always seemed to me as something approaching the miraculous, that certain bacteria grow abundantly in one of the tissues of the body for a few days, then as suddenly they are killed off and disappear. If they grow at first, why do they not continue to grow? If eventually killed, why not at the start? Years ago we found out that this was not because they had exhausted the food supply. I do not know if this has been tried in connection with pneumonia, but it has been repeatedly tested in the lower animals in connection with one or other of the diseases from which these may suffer; it has been found that the blood and tissues of the diseased animal will afford abundant nutriment for the bacteria. It is not that they are poisoned by the products of their own growth—

this occurs, it is true, when we grow them from broth in a closed test-tube outside the body—but we can make an emulsion of a pneumonic lung, and, if we add the diplococci to this, some will be killed (for, as I shall point out, there are substances poisonous to the bacteria in such a lung), yet when a certain number have been killed the rest will grow freely. If the poisons were produced by the diplococci themselves then the greater the number of bacteria destroyed the more of these poisons would be liberated into the lung emulsion and still less the chance would be for any to remain alive and multiply.

Neither of these explanations will suffice. The only adequate explanation for this eventual destruction of the bacteria is that of adaptation. When first the diplococci began to grow in the lung they did so because the tissues could not neutralize their poisons and kill them; by the very act of growth and production of poisons on the part of the bacteria the tissues become educated until the moment is reached when the cells of the body produce sufficient counteracting poison to kill off the bacteria and to neutralize their toxins, which toxins do all the damage to the system.

And here is the interesting and important fact—a fact, I think, too little realized by most medical men, although instinctively all strive to live up to it. It is not the lungs alone that are in action in destroying the germs of the disease and so bring about recovery, it is not even the white corpuscles of leucocytes which, passing into the lungs, accomplish the good effects; the

whole organism, or practically the whole organism, is actively engaged in the process.

You have all, I doubt not, heard much of late years about these white blood-corpuscles or leucocytes; how they are, as it were, at once the main avenging army and the scavengers of the body; without doubt they play a great part. We can see them in various stages full of bacteria which they have taken up, and at times we can make out that these bacteria are undergoing digestion and destruction. Nay, it is not difficult for anyone to experiment on himself, as Leishman has shown, to take a few drops of his own blood, separate off the white blood-corpuscles and taking a drop of blood serum, holding these in suspension, add to it a number of disease-producing bacteria of one or other order; in fifteen minutes time, kept at the body temperature, each little leucocyte can be seen to have taken up, it may be a score or more separate bacteria. But here is another fact. This eating up of the bacteria does not depend upon the white blood-corpuscles alone. It depends, as Wright and Douglas have recently shown, upon a curious interaction between the cells and the fluid of the blood. If you take the white corpuscles of a man who has not had a given disease and place some in the fluid of his own blood, and place some others in the blood-serum of a man who has successfully resisted that same disease—who has recovered from an attack—you will find that these little white blood-corpuscles will take up very many more of the particular bacteria causing that disease in the latter

case than in the former. There is, therefore, something circulating in the general fluids of the body after it has gone through an ineffective disease, something not local but generalized, something which was not there before in any amount and has therefore been elaborated during the course of the disease, and this aids in the destruction of the bacteria of the disease.

The same was noted some years ago in connection with typhoid fever, and that not merely after recovery, but during the process of the disease.

We utilize the fact now as a most useful means in diagnosing doubtful cases. In typhoid the bacilli grow more particularly in the lymphoid tissue of the intestine—for here is an interesting point to remember, that the different bacteria of disease have their seats of election. Once they gain a footing in the body there are certain tissues in which they grow in greatest abundance, while at first they do not grow to any extent in other tissues; or, in other words, if they do find their way into the other tissues they are easily destroyed. But while the typhoid bacilli thus grow locally, if we take the fluid of the blood of a typhoid fever patient on the fifth day of the disease or so, we find that this now has new or greatly exalted properties. Although we dilute the blood 40 or 50 times, if we place in it some of the actively growing typhoid bacilli they become motionless and clump together in masses. The blood fluid has acted upon them. Nothing of the kind occurs in similarly diluted blood from one who has not had typhoid. What does this all mean? It means that during the course

of the disease there is gradually developed on the part of the organism as a whole the power of coping with and neutralizing or destroying the micro-organisms of that disease. Something has developed, not locally, but generally, which either was not there before or which now is developed in greater quantity than before. There is an adaptation to changed conditions. The body as a whole reacts and produces substances which tend to give it the advantage in the fight against its foes.

Need I remind you that the modern treatment of diphtheria makes use of this fact. We employ the fluid of the blood of animals which have been inoculated with the diphtheria bacillus, in order to utilize the antitoxic substances which those animals have produced, and produced in excess, in order to cope with the inoculated microbes. Where, precisely, these antitoxic substances are produced we are still engaged in determining. We know that the leucocytes produce one set, but the substance or substances which activate these and render them effective, we know less about. Some are inclined to believe that the leucocytes also give origin to these. Recent evidence tends to show that certain tissue cells—of the liver, brain, etc.,—elaborate them. It may well be that in tuberculosis the muscle cells play some part.

So now to return to the case of pneumonia. Let us try to translate what happens there. Through some lowering of vitality, the tissues of the air sacs, which in health can destroy individual bacilli finding an entrance into the lungs, are overcome, and the

bacteria multiply and set up disturbance. Then the second line of defense comes into action—not so much the lung tissue itself as the leucocytes which belong to the general circulating blood. These make their way into the damaged area, are unable to take up diplococci in sufficient numbers and destroy them; on the contrary, they themselves tend to be destroyed, and the diplococci continue to multiply. In the meantime, the poisons from the diplococci have diffused out of the air sacs into the blood and are so carried all over the body, and with this we have the development of high fever. And now the cells of other parts of the body take up these less concentrated poisons and toxins, and taking them up, proceed to manufacture the counter-acting bodies which neutralize or help in the process of the neutralization of the poisons, and once they start to do this they continue, and produce more and more of these antitoxic bodies, so much, in fact, that the excess passes into the blood, and from the blood passes into the damaged lungs, until the moment is at last reached when sufficient of these antitoxic bodies are present there to reinforce the action of the leucocytes, and with this, all the diplococci are killed and recovery ensues. I say reinforce the leucocytes, for the leucocytes are developed largely in the marrow of the bones, and the later relays of young leucocytes have, before they reach the lungs, become accustomed and adapted to the bacterial poisons, and thus are much more powerful than the earlier drafts of leucocytes which passed into the lungs. These, aided by the fluid of the blood,



are effective; the former were not. Hence, it is through the general adaptation of the tissues of the organism, and not merely through local efforts, that the body overcomes infective disease.

Once one realizes this it is all so clear, and, if I may express it, so very human—so like, for example, what happened in the Boer war. There we had local irritation in one part of that vast organism, the Empire; local efforts were unable to quell the disturbance, and war flared up and there was great local damage and arrest of the normal local activities. It looked as though the part might be completely lost. The effects of this local disturbance rapidly diffused through and influenced the whole empire, and, like the leucocytes, soldiers were drafted to the seat of irritation from all parts of the organism, even from distant portions like our own Canada. We contributed, as it were, from the marrow of one of the limbs. Those soldiers, at first unused to Boer methods of warfare, were at a great disadvantage, and we had Nicholson's Nek and Colenso and other terrible disasters. But as the Boer methods became better understood, our soldiers adapted themselves to them; the spirit of depression gave way to one of grim determination to overcome the enemy; more and more soldiers, contingent after contingent, from all parts of the empire were collected and sent to the front. Supplies of all kinds were produced at a distance and poured into the focus of inflammation, and at last the pathogenic organisms were completely overwhelmed and recovery ensued.

Now to apply all this to tuberculosis and its arrest. The disease, it is true, is of a different type—it is of slower development and more progressive character. To pursue my simile, if I may venture to do so without offense and without wishing to give offense, tuberculosis is to the human organism something like what Irish discontent is to the body politic. If we are healthy, our first line of defense, the surface cells of the nose, mouth, throat, air passages, and digestive tract, can directly destroy occasional tubercle bacilli taken up by them, only if an excessive number be taken up they are killed by the bacilli. Healthy people can breathe in tubercle bacilli without harm resulting. That this occurs has been proved by examining the nasal secretions of nurses and students in tuberculosis wards and finding tubercle bacilli in the same, and I may point out the remarkable fact that in a well-conducted tuberculosis hospital the nurses are found not to contract tuberculosis. They keep themselves in good condition.

The bacilli may get beyond this first line of defense into the lymph and blood, and there may not cause any disturbance, being killed before they can multiply. Quite a number of cases are on record in which tubercle bacilli have been found in apparently healthy lymph glands showing no signs of tuberculosis. Again we can, for example, take two healthy young dogs and feed them with milk to which we have added a fair but not excessive number of active tubercle bacilli, and killing one two or three hours later, we can detect the

tubercle bacilli in the lymphatic fluid draining away from the intestines. This is a process which, as I and others have pointed out, is constantly proceeding to a slight extent in connection with the abundant bacteria of various kinds which people the intestines. Keeping the other dog for some weeks or months, it may show not a sign of tuberculosis, and killing it at the end of this time we may not detect a sign of this disease in any region of its body.

But now if even temporarily the general health is depressed the history may be very different. The tubercle bacilli at the point of entrance, or it may be when they are carried into the circulating lymph or blood, are not necessarily destroyed. In many parts of the body they are, but if an organism possesses an Ireland—a region of constitutional weakness, with poor nutrition and poor circulation—if by chance the bacilli find their way into this, the cells cannot destroy them, but, on the contrary, they multiply, produce their poisons, killing the cells, and developing a focus of inflammation—a tubercle. Such a region, as everyone knows, is the apical part of either lung. From its relationship to other parts, there is there poor circulation and nutrition, and, added to this—although here remembering my simile, I must speak delicately—there may be something innate in the properties of the tissue cells themselves. Certain it is that here more particularly the tuberculous process may manifest itself. A priori, one would think that the bacilli having once gained a footing in a part would continue to grow and spread from this focus; that growing

their concentrated toxins would depress the vitality of surrounding cells, rendering them an easy prey, so that of necessity once the disease was established in the system, it would go on from bad to worse with progressive invasion, poisoning and destruction of the tissues throughout the body until a merciful death ended the scene. This does occur in some cases in which the tissues seem to have no resisting power, but as a matter of fact, it is by no means necessarily or usually the case. Progressive invasion we know is the exception, not the rule. As a matter of interest, I looked last week through the records of the 139 post-mortem examinations performed last year in my department at the Royal Victoria Hospital, and I found that while there were eighteen cases out of the total in which tuberculosis had assumed a progressive character, and had surely been the cause of death, there were forty-one cases, or more than twice as many, in which there were absolute evidences of old arrested, and even healed tuberculosis. There were, in addition, three cases of progressive tuberculosis in which death was from some other cause. The disease, as has been often stated before, is more often arrested in man than it is fatal, and the process in this arrest and healing must from every consideration be not so much by local effort as by the co-operation of the other tissues. We have clear evidence that this is so. Just as in typhoid fever, so here it has been shown, more particularly by Courmont, that the blood and body fluids of tuberculous patients contain a substance not present in healthy blood, a substance which causes the clumping

of the tubercle bacilli. And, as pointed out long ago by Koch, if an animal has localized tuberculous affection of one region, say the eye, the injection of virulent tubercle bacilli into another region at a distance, say the skin of the flank, leads, it is true, to a temporary local inflammation during which the bacilli are destroyed, but it is followed by no local development of the disease proper, and by no extension from that region, a clear proof that the primary local development of the disease is accompanied by the development of increased resisting powers on the part of the rest of the tissues. Here again there is adaptation, by means of which these other tissues of the organism protect themselves, and as a whole reinforce a local effort, tending to produce so much antitoxin or antibacterial substance that at last the system overwhelms and arrests the local growth of the bacilli.

I have not seen this matter hitherto worked out adequately, and I believe it is useful to present it to those interested in our work, even though at first hearing—being perhaps to some extent novel—it may be difficult to follow and fully grasp. Once grasped we grasp with it the whole rationale of the treatment of tuberculosis. Let us just glance at this.

First as to Koch's treatment by injection of tuberculin; that is, of the body juices and toxins of the tubercle bacilli. The basis of this treatment is clearly the carrying further of this natural process of stimulating the tissues in general to produce antibacterial substances by means of the circulating toxins. As we know by observation,

outside the body the individual tubercle bacilli do not produce much toxin; indeed, it is only when they die or are destroyed that much poison escapes from them. Probably one of the reasons why tuberculosis tends to gain a foothold in the body is that the bacilli are at once so slightly irritant and so resistant. As there is no excessive diffusion of toxins at the beginning of the process, the rest of the tissues are not adequately stimulated; this especially when the body as a whole is in a low state of nutrition. By injecting these diffusible toxins we stimulate the cells in general to manufacture increased amounts of antitoxin substance and thus aid the local resistance. (I put this purposely in a general way; to discuss this matter in the terms of complements and amboceptors and all the armamentarium of the modern bacteriologist, would utterly confuse, but this is obviously at the base of the rationale of the process.)

But as all now know, Koch's treatment is but partially successful. It is useless in advanced cases in which the disease is extensive and in which there must already be relatively abundant circulating toxins. To inject more toxins in such cases is to poison rather than to stimulate the cells. In dealing with the treatment of tuberculosis there are two factors to be taken into account: You may take a horse to the water but you cannot make him drink. You may supply a cell with the tubercle toxins which are necessary in order to stimulate it to produce antitoxins, but it may be so feeble that it will not react—will not produce these antitoxins. All its energies may be used up in the perform-

ance of ordinary every-day functions. And here we have the basis of the modern treatment in which, as you know, we do not try to do anything specially against the disease itself; on the contrary, we leave the disease as such severely alone. But we do everything in our power to improve the general bodily condition. We enforce rest so that the cells shall not be overworked, and may have spare energy; we give abundant, easily assimilable food so that patients may build themselves up; we demand life in open air with abundant oxygen, and that toning up of the system which the freshness and coolness in the air bring about more naturally than does anything else. For just as a lax violin string will give no note, while made taut it vibrates to the slightest touch, so by improving the tone of the tissues in general, they respond more immediately and more fully to the stimulus of the circulating toxins, and produce the counteracting bodies which, developed in greater abundance and poured out into the blood, can now act locally on the tubercle bacilli in the areas of the disease.

We, in short, do everything we can to help the body adapt itself to the changed conditions, and this adaptation we know means also counteraction. The success of our modern treatment of tuberculosis—treatment, be it remarked, purely empiric in its inception and based upon no adequate theory of the modes of defense on the part of the organism—this success is the strongest proof of the correctness of the conclusion reached along other lines, that recovery from infective disease is not merely nor mainly a local reaction,

but is a process in which the tissues not directly involved and the body as a whole take a most active part; becoming educated thereto during the course of the disease.

I have taken possibly too much of your time in discussing the moves on the part of the organism and have delved, it may be, too deeply for a general address. I would gladly think that my digging, if deep, has also been sufficiently broad in its scope to let in the light. Before closing, some words must be said of that other matter, the moves made by the bacilli.

You must not look upon these producers of disease as fixed in their properties and unalterable; rather we have to realize that they also are capable of adaptation. For us it is a fortunate fact that their power of adaptation is not so extensive and so rapidly developed as that of the healthy human organism. This we may take as another instance of the fact that in union is strength. It may well be that the individual cells of the body have not the same power of adaptation as has the tubercle bacillus, but while the bacilli are isolated and independent the cells of the body are united and co-operate, and the sum of their reactive changes may well be greater than the adaptive changes possible in an isolated tubercle bacillus. Nevertheless, bacteria are capable of great changes, suiting them to the altered conditions of their surroundings. There is, for example, a large bacillus, *Bacillus megatherium*, first found, if I remember aright, upon a cabbage; this is absolutely harmless for warm-blooded animals—one can inject it by the million into the rabbit

without setting up any recognizable disturbance. But, as Vincent has pointed out, place some of these in a thin-walled celloidin capsule in the abdominal cavity of the rabbit, such a capsule that the fluid part of the lymph can easily penetrate through the walls and so afford nourishment to the bacilli while the leucocytes and antitoxic bodies cannot enter—we find that after sojourning there for several weeks the bacilli have become accustomed to their surroundings so that now they will grow in the tissues of the rabbit without any capsule being needed. From having been perfectly harmless they are now pathogenic and can set up disease.

What is to be said regarding the tubercle bacillus in this connection? In the first place, we may have the complete assurance that Adam was not created suffering from tuberculosis. The bacillus, we may be fairly sure, from living it may be on the foodstuffs outside the body, accustomed itself first to living on the surface and in the passages of the organism as a harmless saprophyte and only later gained the power of living not on, but in the tissues, and from that moment it became pathogenic. This, it is true, must have happened centuries and centuries ago, for the disease was known to and well described by the early Greek writers on medicine. While this is so, I do not think that we must imagine that the virulence of the bacillus has remained the same from that day to this; the probability is that were the ancient Greek to come to life again and mingle with us moderns his would be but a brief visit to this earth; he would be

carried off by fulminating malignant tuberculosis in a very short space of time, if even before that the modern influenza bacillus or the pneumonia diplococcus had not marked him for its own. I mean that, the indications are that there has been a steady adaptation of both organism and micro-organism, the one to the other; as the system has become more resistant, the way in which the South Sea Islanders were devastated by measles when the most puerile disease was first introduced by Europeans. We must suppose that measles had originated in Europe and Asia at some period after the first natives found their way across to the South Sea Islands, or that the colonizing aborigines did not happen to carry it with them in their canoes and so henceforth remained free. Probably it began as a mild disease and as it became habituated to the human organism so did that organism become more resistant, and the microbe increase in virulence *pari passu*; what continued to be a mild disease to Europeans therefore was most fatal to the Melanesians who had undergone this progressive adaptation.

We have abundant evidence bearing upon this matter of modification in the virulence of bacilli by growth in the organism of one or the other species; adaptation, that is, to the surroundings whereby existence is rendered more sure. By the passage of a given pathogenic bacillus through a given series of animals, by inoculating one animal of a species—a guinea pig, for example—with a feebly pathogenic microbe, then when the disease is in full activity, taking some of the body fluids contain-

ing the germs and inoculating that into another guinea pig, and from this again into another, and so on through a succession of a score or so—we can render the bacilli extraordinarily virulent, so that whereas the disease in the first of the series ended in natural cure, at the end of the series the greatly diluted body fluids, diluted so as to contain only a few rare microbes when injected, may cause death in from six to ten hours.

By this artificial process, bacteria adapt, and more than adapt, themselves to the organism of the one particular species; but this does not necessarily mean that they have adapted themselves at the same time to the conditions found in the organisms of other species. That may or may not be the case. An organism which, by passage through a series of human beings has acquired greater virulence for man, may or may not gain increased virulence, say for oxen, and *vice versa*. On the whole, the reverse is more often the case. As a matter of fact, we have positive evidence that if we take two calves and inoculate them subcutaneously with equal amounts of cultures of tubercle bacilli which have been gained from the cow and man respectively, the disease is much more rapid in its progress, spreads much more rapidly, and leads to earlier

death when the bovine bacillus is employed than when the human strain has been used. This may be laid down as a general rule. Nay, more; if only a moderate dose of bacilli gained from man be injected, nothing more than a local nodule is produced in the inoculated calf; there is no generalization, and after a few weeks or months no sign of the tubercle bacilli are to be made out.\* So much so is this the case that Von Behring is now utilizing bacilli gained from cases of human tuberculosis to vaccinate cattle and to prevent them from becoming infected from their fellows by means of the bovine tubercle bacilli. This is all now freely accepted; the opposite case remains still a matter of some debate, though the two parties are coming to a more intermediate position. This matter was discussed very thoroughly by Dr. Ravenel in the address before this Association last year, and Dr. Ravenel, you may remember, took the position that tuberculosis is rather frequently conveyed to man from cattle. I still hold that such conveyance is not so frequent as is generally accepted. I have never from the first taken the position that it never occurs, but I still firmly believe that a tubercle bacillus which has passed from cow to cow for a long period, while it becomes more

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\*In view of the Interim Report of the British Royal Commission on Tuberculosis, I would lay special emphasis upon this point. That commission has, in quite a number of cases, caused tuberculosis in cattle by the injection of human tubercle bacilli. Because disease can be transmitted experimentally by injection of a number of bacilli far in excess of the number which in nature could possibly gain entry at any one focus, it is by no means proved that under natural conditions these same bacilli are liable to cause infection. What the commission should demonstrate, in order to establish that human tuberculosis is dangerous to cattle, is that the minimum dose of human tubercle bacilli capable of setting up tuberculosis in cattle approximates to the minimum dose of bovine bacilli producing the like effect. This, I am convinced, is not the case. There may be examples of bovine infection of man in which the bacilli still retain the high grade of virulence for cattle, but everything indicates these are the exceptions.

and more virulent for cattle, becomes less and less virulent for man, so that under ordinary conditions we have not so much to fear from milk and other products containing these bacilli, so far, that is, as the fully developed adult is concerned; but with weakly, young children the case is different. They are susceptible, and if a large dose of tubercle bacilli be given them in the milk, I firmly believe that even a relatively slightly virulent bovine tubercle bacillus may gain entrance into their system in such large numbers that the cells are unable to kill them, and that here or there they may gain a point of growth, and once they grow they may gradually adapt themselves to the human organism and set up the fatal disease. I doubt if this necessarily occurs in all children; that is, we have cases brought forward in which children have been fed upon the milk of cows suffering from tuberculosis of the udder, without showing a sign of the disease.\* Still, undoubtedly, the danger is there.

Here I would only say that certain very interesting observations recently published support my view that the relative frequency of tuberculosis of the intestine of children must not be ascribed positively to drinking the milk of tuberculous cows; it may equally well be due to swallowing saliva containing breathed-in tubercle bacilli, discharged in the air from the lungs of men and women suffering from the

disease, or may have been sucked up by the fingers after the child has been crawling on the floor. And these are observations by one of the greatest bacteriologists of our time, the man who first gained pure cultures of the tetanus bacillus, and who was one of the first to work out the antitoxin treatment in infections, the discoverer also of the plague bacillus, and that man is the greatest Japanese bacteriologist, Kitasato.

Nowadays we have a thorough and wholesome respect for the Japanese and his methods, and not the least for his thorough knowledge and practical application of bacteriology. The nation which has taken to heart the dictum of King Edward, "If preventable, why not prevented?" has applied bacteriologic methods in the conduct of warfare, sending bacteriologists with each division, which has had the wisdom to recognize that the General Microbe would be for her a far more powerful ally than Czar Nicholas' General Fevrier, that from the experience of recent wars for every one Russian put out of action by shot, or shell, or bayonet, four would be invalidated by pestilence, and, accepting the warnings and advice of the bacteriologists, has managed to much more than reverse these figures in her own army; that nation and the bacteriologists of that nation deserve our respect. It is a recent paper by Kitasato that I wish to bring before you.† In this, with a wealth of statistical data,

\*It must not be thought that I recommend that milk from tuberculosis cattle should be drunk with impunity; there is something repugnant in the idea that milk containing any form of infective disease should be used as food. The fullest precautions should be taken and legislation developed to prevent the use of milk from animals suffering from any form of infective disease.

†*American Medicine*, January 7, 1905.

he has shown that the deaths from tuberculosis in Japan are just about in the same proportion to the total deaths and the total population as are the deaths from this disease in European countries. There is, in fact, a remarkable similarity in his tables, suggesting very strongly that the factors at work are identical. In the second place, though here I confess his data might be fuller, he shows that in those under eighteen years of age the number of cases of evident primary intestinal tuberculosis is certainly not less, but on the contrary, rather more than among Europeans and Americans, namely, thirty per cent. of the total deaths from this disease, whereas in Europe of late there has been a rather remarkable consensus of observations giving the proportion of about twenty-five per cent. But, as I have already stated, it is usual to attribute these cases in early life to infection from cow's milk, while Von Behring goes so far as to attribute most human tuberculosis to this cause—the use of cow's milk in infancy. But now, says Kitasato, the use of cow's milk for feeding infants is unknown in Japan; if a mother is unable to feed her child a foster mother is employed. Singularly, little milk is consumed in Japan, and a careful calculation made from the total population, from a census of milch cows throughout Japan, and the average daily amount of milk yielded per cow, indicates that the individual Japanese on an average consumes daily just about three-quarters of a teaspoonful of cow's milk. Even in Tokio, the largest city, where most milk is consumed, the amount per in-

dividual works out to two and a third teaspoonfuls.

Next it is shown that bovine tuberculosis is unknown among the native Japanese cattle, while by cross-breeding with imported European cattle they become infected. Experimentally subjected to a severer test than is ever likely to occur in nature, a certain number can be given the disease. A few, very few, cases have been reported in which the disease has been noted as found in native cattle, and this is only in Tokio and Yokohama where most foreign cattle have been introduced, and these so-called native cattle may have been of mixed breed; for in accordance with Mendel's law, a certain proportion of cross-breeds are likely to have the characteristics of the native sire or dam, and be indistinguishable from the native race.

To epitomize: The facts gathered in Japan show that intestinal tuberculosis, which is as frequent there as in Europe, cannot be attributed to the ingestion of infected cow's milk, cannot therefore be of bovine origin, and the inevitable conclusion is that if intestinal tuberculosis is moderately frequent and not of bovine origin, then similarly, a large proportion of the cases of European intestinal tuberculosis are in all probability not due to infection from milk. In other words, these observations support the view that I have maintained for the last six years that undue stress is laid upon bovine tuberculosis as a source of human infection. The danger is there; do not let me be misunderstood. I am convinced that weakly children are susceptible to the



disease conveyed through the milk of cows suffering from udder tuberculosis; only the danger has been exaggerated. With Koch, I hold that infection in the great majority of cases is from man to man, and that our main efforts should be in the direction of preventing such infection.

This does not mean that I would restrict the legislation regarding tuberculosis in cattle. Far from it. These observations of Kitasato support what I have urged all these years, that it is possible to eradicate bovine tuberculosis independently of our efforts to eradicate the disease in man. Kitasato points out that so far as the chronicles of Japan extend back through the centuries they tell of the existence of human tuberculosis, and yet, although the disease has been present all these centuries, the cattle of the present day are not infected. If the human strain of bacilli easily adapt themselves to existence in the bovine organism this could not be possible. This is another link in the chain of evidence which led me to urge in 1899 before the Canadian Medical Association,\* and repeatedly since, that we in Canada should lead the world in completely banishing the disease from among our cattle. The disease is altogether too prevalent in European countries, for example, for this to be possible—the cost there would be too great. We are remarkably free from the disease, freer than any other western country, still it exists and its eradication is obviously a national and not a provincial concern. We are told that the Federal Government hesitates to interfere in the

prevention of human tuberculosis, not because it does not recognize that this is a work of national import, but because in doing this it would be trespassing upon provincial rights, and the law is above the people and their welfare. But the health of animals has been from confederation onward, a matter both of national concern and of federal legislation. I would once again urge that it is for the government to select some one well-defined section of our country and there root out completely the disease from among the cattle. Let it take Prince Edward Island, for example, appoint inspectors, and be prepared to superintend the health of the animals on the island for, say, five years; let them apply the tuberculin test and take over and compensate for all reacting cattle; disinfect the byres and forbid any fresh animals to be landed without rigorous determination that those animals are free from the disease. I am convinced first, that by the end of two years, if from the start they thoroughly enter into their work, the inspectors would find not a single case of the disease cropping up anew on the island. That disease, I say, only passes from animal to animal, and not from man to animal, under natural conditions, and if there are no infected animals to convey the disease, no new case can show itself. In the second place, the farmers would be benefited materially; no longer would they be subject to loss from the disease decimating their herds, and what is more, the certainty that their stock was free from the disease would enhance the value of that stock

\**Philadelphia Medical Journal*, December 30, 1899.

and afford a market for it for breeding purposes, not merely at home, but in distant countries which despair of obtaining uninfected animals, their own stock being so riddled with tuberculosis. And lastly, the experience gained in eradicating the disease in one locality would show how it can be accomplished most economically and surely in other parts, and eventually throughout the whole of the Dominion, so that Canada, our Canada, should stand before the world as the first country to solve the great problem and to possess stock wholly free from this devastating disease, so ruinous to agricultural communities throughout the world.

This is no chimeric plan; it is a

perfectly feasible experiment, assured of success from the first, causing little disturbance and capable of being carried out at no great cost. If the Government has not merely the fear of the provincial politician before its eyes, but possesses a statesman-like foresight, if it has the welfare of the community at heart, the well-being of this Canada of ours, then I urge that it take up this work; that it make a forward move fraught with advantage to what is by far the greatest industrial interest of the country, even if it does not immediately see its way clear to take up measures for the benefit of the greatest national interest of all—the health and the well-being of the people.

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According to the first report of the New York Hospital for Incipient Tuberculosis, located in Raybrook, New York, of the 82 patients who have been admitted since July 1st, when the institution was opened, 11 have been discharged cured, 19 have apparently recovered. In 34 there is arrest, and in all the rest, except 5, whose length of observation has been too short to justify conclusions, there has been improvement.

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A bill has been introduced into the Pennsylvania Legislature for the appropriation of \$300,000.00 to the free hospital for poor consumptives at White Haven. Of this sum \$100,000.00 is for the erection and equipment of new buildings to increase the capacity of the hospital to 300 beds. An-

other hundred thousand dollars is to secure a site to erect a building for the accommodation and care of cases further advanced than accepted at White Haven. The third hundred thousand dollars is for the maintenance of the hospital at White Haven.

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Another international association for the study of tuberculosis is the Societe Internationale de la Tuberculose. Its headquarters are located at Paris. Its purpose is the study of all questions concerning tuberculosis, and to centralize the means of defense. The membership is to consist of physicians or scientists holding diplomas from French or foreign universities and colleges. The annual fee is \$2.50. The general secretary is Dr. George Petie, 51 rue du Rocker, Paris, France.

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## EDITORIAL.

### AMERICAN EDUCATION

American mining engineers of the type of John Hays Hammond achieved such marvelous success in South Africa that the attention of the world was drawn to American schools and methods of instruction. Mr. Alfred Mosely, an enterprising Englishman, brought a commission of educationists to America to study our educational system, and was so well pleased with what he saw that he will send his sons to Yale University.

On the other hand, Mr. John Perry, professor of mechanics and mathemat-

ics in the Royal College of Science, England, says that we have "the most slipshod, superficial kind of education that the world has ever seen;" that we have "good school-buildings, but poor teachers;" and that "millions are spent for bricks and mortar and apparatus in colleges, but the standard salary seems to be that of a tramcar conductor."

Professor Perry got his impressions from studying chiefly our schools of engineering, which are the strongest part of our educational system, as our medical schools are the weakest. One

wonders what would have been his verdict if he had as thoroughly and as competently studied them. A medical student has more to learn in four years than any other student, and instruction for him should be of the highest order, whereas it is very often of the lowest. Much advancement has, in the last decade or two, been made in broadening and deepening medical instruction. The requirements for entrance and for exit have been greatly increased, especially on paper, but the methods of instruction are still largely medieval and the conduct of examinations is, and of course always will be, often farcical. Many instructors leave their students, during examination, "upon their honor," which for the moment is often

the smallest and weakest part of a student's anatomy. Often, too, an instructor writes the examination tests upon a blackboard, and by the time he has finished this absorbing task, the students, in greater or lesser number, have discussed with one another the most difficult points of the requirements. By this and other reprehensible means, the most ignorant student can easily, and often does, secure first-class rank.

If those who are at the head of medical schools sincerely wish to raise the standard of intelligence in the medical profession, they can do it very considerably (and with little or no extra expense) by instituting a close general supervision over all their examinations.

A. D.

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## PROGRESS OF MEDICINE.

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### Diseases of the Digestive Tract.

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*Conducted by A. E. Engzelius, M. D., Denver, Colorado.*

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#### ULCER OF THE STOMACH.

In a paper entitled "Problems Relating to Simple Ulcer of the Stomach," Beverley Robinson (*Medical Record*, Dec. 31, '04), in his usual lucid manner of writing discusses several points in the etiology, diagnosis, and treatment of this disease. Not denying that persistent hyper-acidity and blocking up or obstruction of the circulation in limited areas of the stomachal mucous membrane have much to do with the development of the ulcer, he believes

that a diminished or impaired nerve force is an important causal factor in the disease, which satisfactorily explains the occurrence of gastric ulcer in cases in which the hyper-acidity and circulating changes are absent. There are, according to the author, not a few instances recorded by competent and careful observers in which the free hydrochloric acid was decidedly below the average normal amount.

As regards treatment, the author is firm in his belief that the majority of

cases can be cured by "timely, judicious and skilled" medicinal treatment, and that surgical interference should be limited to (1) cases of acute ulcer, "in which the hemorrhage is sudden, profuse, repeated, and the menace to life too great to await the slow results of medicinal remedies, or hygiene and time;" (2) those of chronic ulcer, "in which the abundant recurrent bleeding shows that the degenerated, gaping artery of the diseased surface may be obstructed for a while with a clot, but will soon, through its removal, bleed afresh," and (3) cases of perforation of the ulcer. The possibility of carcinomatous changes taking place at the site of an ulcer is, in the author's judgment, by reason of the extreme infrequency of such an occurrence, not sufficient cause for "a formidable and too often almost immediately fatal operation."

Attention is also called to the fact that even after operation there is, in many instances, a return of the characteristic symptoms of ulcer, due to the formation of fresh ulcers. The underlying cause or causes of ulcer of the stomach are not affected by the operation, and, unless these causes be neutralized continuously, or overcome, it is improbable that a permanent cure will follow. The author is decidedly averse to the growing tendency of looking upon ulcer of the stomach as an essentially surgical disease, and he exclaims: "Alas! for the uncontrolled tendency of the day which would seek to cure all human ailments with the knife, and allow less and less to the sanest, most instructed, broadest way

of regarding departures from health and well-being."

#### TUBERCULOSIS OF THE GASTRO-INTESTINAL TRACT.

Lichty reviews this subject with the report of an interesting case of perforation and partial stenosis of the bowels. (*Penn. Med. Jour.*, April, 1905.) He finds that primary infection of *the mouth* is very rare, the squamous epithelium exerting a more protective influence than the ciliated epithelium. The germ also becomes easily enveloped in saliva and is thus carried to the stomach.

*The pharynx* is rarely the seat of a primary infection. Of 16,000 throat cases, Lublinski found only three or four cases of primary pharyngeal tuberculosis. Primary tuberculosis of *the oesophagus* and of *the stomach* is exceedingly rare. It has been held that the acidity of the gastric juice acts as a protection, as the bacillus very soon dies in an acid medium. Actual experimentation, however, disproves this assertion, as it has been found that the bacillus will retain its virulence after being exposed for many hours to a normal gastric juice.

According to the author's opinion, the resistance which the stomach shows to the invasion of the tubercle bacillus is due, not so much to the condition of the gastric juice, as it is to the muscular activity of the stomach. The peristaltic action being continuously kept up after ingestion of food until the organ is empty, the stomach affords very little opportunity for micro-organisms to gain a foothold.

The *intestines* may be primarily affected. Excepting typhoid fever and dysentery, tuberculosis is the most frequent cause of ulceration in the intestines. Intestinal involvement is most frequently caused by the swallowing of tuberculous sputum.

In contrast to the typhoid ulcer, which is longitudinal, the tubercular ulcers have their longest diameters at right angles to the intestine. The ulcers may perforate, or, in the process of healing, cause constriction and stenosis.

The ulcer occurs most frequently in the lower portion of the ileum. Frerichs, in 250 cases of chronic phthisis, found tuberculosis of the ileum in 200; the colon was implicated in 115 cases; the rectum in 18; and the colon alone in 8 cases.

The diagnosis is stated as not always easy to make. The diarrhea is an uncertain symptom, as it may be due to amyloid degeneration, or caused by the toxins contained in the swallowed sputum. Moreover, if the ulcers are situated in the upper part of the bowel, diarrhea may be absent. Neither should too much importance be attached to the finding, or not, of tubercle bacilli in the stools. With the existence of a pulmonary tuberculosis, tubercle bacilli from the swallowed sputum may pass through the entire gastro-intestinal canal, and ulcers be present or absent. In the absence of pulmonary symptoms, the finding of tubercle bacilli in the stools constitutes positive evidence, but, on the other hand, the inability to find them does not exclude the possibility of intestinal tuberculosis.

Leithy does not in these cases advocate the use of astringents and the so-called intestinal antiseptics. In the treatment, rest, fresh air, and proper food must be relied upon almost to the exclusion of all other methods and agents. Sometimes most happy results have been observed from the administration of dilute hydrochloric acid and pepsin.

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#### INTESTINAL PERFORATION IN TYPHOID FEVER.

Of the many serious complications which may arise during the course of even mild cases of typhoid fever, there is probably none in which a prompt diagnosis is more important and at the same time often neglected than in the occurrence of intestinal perforation. Although the possibility of spontaneous cure in such an event can not be denied, it is, however, apparent that nature's method of effecting a cure is too uncertain, offering only a chance so scant that it should not be counted upon. The patient's only safety lies in an operation performed without delay.

The diagnosis of perforation in typhoid fever is, as a rule, not difficult. Morris Manges in a recent excellent paper on "The Diagnosis and Treatment of Perforation in Typhoid Fever" (*The Journal A. M. A.*, April 1, 1905), calls attention to the deplorable and unpardonable lack of information on the subject in the majority of textbooks now in the hands of students and practitioners. By popularizing among the general practitioners the knowledge of the diagnostic features and

clinical aspect of perforation—a subject which has, during the past few years, been so actively and ably studied—Manges believes that recognized cases of perforation should be steadily increasing.

The most important symptom is *pain*. According to Manges “it is present in 17 of the 19 cases of the series, being absent only in the 2 delirious and comatose cases, and in 14 it was the first symptom of onset. The pain is described as variable in degree, location and character, but more or less paroxysmal. Its severity may be so marked that the more or less comatose patient may cry out with pain; on the other hand, it may be very mild, indeed. It may remain more or less constant, or it may gradually disappear; it may even be concealed to avoid operation. It may be referred to any part of the abdomen and even to other parts, like the penis, the umbilicus, or to the left iliac fossa.”

The two symptoms to which Manges next attaches importance are *abdominal rigidity*, which was present in 16 cases, was variable in 2 and absent in 1; and *movable dullness in the flanks*, which was present in 8 cases, absent in 8 and not stated in 3.

He has found *tenderness* to be a very varying symptom as regards extent, locality and severity, and *distension*

he considers an uncertain guide. Pain may be a pronounced symptom in the case of hemorrhage. For this reason every case of hemorrhage with marked symptoms should be regarded as being possibly associated with perforation.

Hays, in an article on the same subject (*The Journal A. M. A.*, April 22, 1905), drawing his conclusions from 19 cases, sums up the symptoms and indications for operative interference thus: “The three cardinal symptoms are, however, the sudden pain, the rigidity and the tenderness of the abdomen to pressure. These three symptoms being present in any case of typhoid fever, operation is indicated and demanded.” He also remarks that “in cases where hemorrhages occur it would be well to be on the watch for perforation,” stating that hemorrhages occurred in four out of a series of twelve cases of perforation. The balance of the attack of typhoid fever is so far from being influenced in any outward way by the operation that Manges and others have observed that in some of the patients who survived the operation, the disease seemed to have been cut short by it. Perforation occurs most frequently in the second and third week of the disease, but it has been encountered so late as in the ninth week in case of relapse.

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## Tuberculosis.

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*Conducted by Wm. N. Beggs, A. B., M. D., Denver, Colo.*

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### DIAGNOSIS OF INCIPIENT PULMONARY TUBERCULOSIS.

With some reservation it may be truthfully stated that tuberculosis is

a curable disease, but the possibility of putting a patient in a proper condition so that the inherent tendency for diseased tissues to recover may be made

manifest; largely depends upon an early diagnosis.

Unfortunately there is no pathognomonic sign of incipient tuberculosis, but there are indications that point in that direction and taken together give a fair picture of its beginning.

Though vitally important for the insurance medical examiner to recognize a tubercular taint in the applicant, he, unlike the general practitioner, has to contend with the deceitfulness common to humanity where there is a possible monetary consideration, and it is for this reason, and because of the peculiar relation sustained by him to the company he represents, that he has endeavored to seek and find out the earliest signs of the disease.

Dr. C. H. Harbaugh, First Vice-President American Association of Life Insurance Examining Surgeons, in a paper published in *The Medical Examiner and Practitioner*, May, 1905, treats instructively of the "Diagnosis of Incipient Pulmonary Tuberculosis—Important and Useful Points for an Examiner."

A resume of the points made follows:

Pulmonary tuberculosis being less common in the very young and the very old, the age should be taken into account.

Dust-laden atmosphere and excessive drink and other forms of dissipation predispose to the disease.

Previous illness should be inquired into—pleurisy, ischio-rectal abscess, and anal fistula are generally of tubercular origin, while severe cold, pneumonia, measles, grippe, etc., often prepare the soil therefor.

The first and most important sign is the dilated pupils of the applicant. "When a bright light is placed before such pupils the reaction is slow, followed almost immediately by dilation to the former stage."

"These dilated pupils are not always present, but are found in the great majority of cases of this disease in the incipient stage, and when found in an applicant great care should be exercised in the examination in order that other signs may be properly considered. Too much stress cannot be laid on this point, as attention to this one sign has undoubtedly prevented the writer from passing more than one case in its early stage."

"The pulse is a most valuable index in the early diagnosis of this disease, and is always found accelerated and frequently of lowered tension. The rate remains constantly above normal, change in position producing little or no difference, it being found the same in standing, sitting or lying-down posture, this latter a peculiar feature of this disease. Very often during an examination the pulse is found above normal in frequency; this may be due to many causes, most often excitement. An easy and sure way to ascertain if the increased frequency is due to excitement is to have the applicant take a deep breath and hold it. If excitement is the cause of the increased rate, then the pulse immediately drops down to normal; if it is due to fever or some other internal cause the holding of a deep breath has no effect on its rapidity."

"The third important sign is the temperature, and as is well known, there



is either a slight elevation of a half degree to a degree and a half, or else a subnormal state exists. This latter is by no means uncommon, sometimes reaching as much as a degree below normal in the earlier stages, and is just as important as being one of the earlier signs of the disease as is the elevated temperature. It is the belief of the writer that a subnormal stage exists in the early morning in all cases of the disease, and often late at night—times when the applicant is not seen by the examiner."

"Another sign that bids fair to become one of the most important ones in the early diagnosis of the disease, and one over which the applicant has no control, is the vagus reflex as discovered and described by Dr. T. J. Mays, the valued vice-president of this association. This consists of making uniform pressure over the two vagi; if a beginning tubercular condition exists in one lung, pressure over the nerve of the same side will cause greatly increased pain, sometimes even causing nausea, fainting or absolute unconsciousness."

In incipient pulmonary tuberculosis but little can be learned from inspection of the chest, therefore we must depend upon percussion and auscultation. The percussion note over the right infraclavicular space and above the right scapula, is higher in pitch than on the left side.

"On auscultation the respiratory murmur is more intense and vocal resonance is increased over these areas. These being normal conditions, any change in the marked intensity of these sounds must be considered pathological,

and when it is recalled that the greater number of lesions are first found in the right apex, strict attention must be paid to any alteration of sounds in these parts. It is claimed by some authorities that over the earliest spot of infection the percussion note is semi-tympanitic, and hyper-resonance exists, and that dullness does not appear until later. The stage at which an examiner can make the diagnosis (often being handicapped in every way) is when dullness exists. Dullness may exist over the spot of an old pleurisy or recent pneumonia, and if it does exist it must be given careful weight in making a decision. An auscultation is the most important method on which the examiner must rely; it must be remembered that the normal inspiratory and expiratory sounds stand in a ratio as ten to two in regard to length, and that the pitch of the latter is lower than the former; therefore when the expiratory sound is found increased in length and the pitch raised there is trouble somewhere, and the trouble generally means a beginning tubercular condition. This is one of the most important signs, and when combined with enfeebled breath sound on inspiration and a slightly roughened, harsh, and prolonged expiratory murmur almost always indicates a tubercular condition in the incipient stage. Increased vocal resonance in any part of the lungs (except as above noted) is sufficient cause for investigation. Sometimes an examiner is fortunate enough to get his ear directly over a small spot of infection; consequently he hears the small crackling rales at the

end of inspiration, an absolute sign of the disease, which is generally present before tubercle bacilli are found in the sputum."

"When a history of loss of appetite, bad taste in the mouth on arising, belching, discomfort after eating, nausea and rarely vomiting is reported, then there exists cause for the greatest caution."

Sweating, though localized to the forehead, hands or feet, is one of the valuable links in the chain of evidence. The doctor mentions cough, expectoration, hemorrhage, pain over certain spots in the chest on breathing, shortness of breath after slight exertion, loss of weight, mental symptoms and

tubercle bacilli in the sputum as occurring early in the disease; but because of the nature of his paper (the recognition of the disease against the applicant's will), does not discuss them fully.

In the discussion of the paper the phthisical expression, dryness, harshness and peculiar clearness of the skin, also the brittleness of the nails, were spoken of.

In concluding the discussion Dr. Harbaugh referred to a pamphlet published by the Illinois State Board of Health, called "Early Diagnosis of Tuberculosis," and said that it was the best that he had ever read.

E. T. BOYD.

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## Foreign Literature.

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*Conducted by Wm. J. Baird, M. D., Boulder, Colo.*

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### THE PROPHYLACTIC USE OF DIPHTHERIA ANTITOXIN.

1. When diphtheria develops in a family, each member, especially those under ten years of age, should receive a prophylactic dose of antitoxin. This is particularly true of the poor, owing to the difficulties attending complete isolation. When the value of prophylactic doses of antitoxin is generally known, it will be seen that the cost of the few hundred units of diphtheria antitoxin is much less than several weeks' treatment of a case of diphtheria.

2. If diphtheria develops in boarding houses, orphanages, asylums, childrens' wards, hospitals, or in any place

where a large number of children live together, all, especially those under twelve years of age, should receive prophylactic doses of antitoxin.

3. In any case, the prophylactic doses should be not less than 250 to 300 units, and in children sick of other infectious diseases, particularly scarlet fever, whooping-cough, most of all measles, the doses should be not less than 500 units. Nursing children should receive the same dosage.

4. In hospitals for infectious diseases where diphtheria cases are being treated, each and every patient should receive a prophylactic dose of diphtheria antitoxin at least every four and much better every three weeks.

Children sick of measles should be given a prophylactic dose every fourteen days.—Ibrahim, in *Deutsche med. Woch.*, No. 17, 1905.

#### QUININE AS AN OXYTOMIC.

1. Unquestionably quinine stimulates uterine contraction, and, while its action is not absolutely certain, in the great majority of cases the results from its use justify confidence in its oxytomic action. It is especially to be recommended in private practice where instrumental procedure is likely to result in infection.

2. Its action in increasing uterine contractions is especially prompt.

3. Its superiority over ergot is due to the fact that the contractions following its use are not tetanic but rhythmic: strong contractions followed by corresponding pauses.

4. It is best given in doses of  $7\frac{1}{2}$  grains from 15 minutes until 2 or 3 doses have been given. The first dose often fails to cause contraction, but the second or third is often followed by violent contractions.

5. Large doses long continued may induce labor.

6. In no case have I seen undesirable effects from its administration.—Josef Baeker, in *Deutsche med. Woch.*, No. 11, 1905.

#### THE TREATMENT OF LARYNGEAL TUBERCULOSIS BY SUNLIGHT.

Kunwald (*Muench. med. Woch.*, No. 2, 1905, *Wiener Lin. Woch.*, No. 1, 1904) states that at present all cases

of laryngeal tuberculosis at the All- and Sanitarium are treated by sunlight.

The armamentarium is as follows: A strip of wood (board) 2 to 3 inches wide, 5 to 6 feet long; two pieces of wood nailed to the end so as to form a cross and serve as a base to the former, which is provided toward the opposite end with several holes provided with movable pins, several nails, an ordinary hand toilet mirror and the laryngeal mirror.

The technic is as follows: The patient sits with his back to the sun, fastens the hand mirror by means of the nails upon the upright board slightly above the level of his mouth. The mirror may be inclined to a proper angle for reflection by means of the wooden pins projecting through the upright back of the mirror. Seated in front of the mirror, the patient protrudes his tongue, holds it with his left hand, while with the right he passes the laryngeal mirror into his fauces, and so places it that a clear picture of of his glottis is seen in the mirror; with the pharynx clearly illuminated, this is not especially difficult.

The most favorable hours for treatment are the early morning and late afternoon. This is done to avoid as far as possible the heat of the sun's rays, which is important, because this causes dilatation of the capillaries, thus influencing unfavorably the inflammatory process, and, owing to absorption of the ultra-violet rays, the results are not so good. For these reasons the best results are to be had

during the spring and autumn months. Patients acquire the technic in a surprisingly short time.

The length of the sittings varies with the experience of the patient. At first not longer than five minutes is taken, eventually the time is extended to one hour, never longer nor more than one hour a day. In all, 20 to 40 hours are given.

Tumor-like infiltrations of the mucous membrane, irrespective of location, are most favorably influenced, while diffuse infiltration, especially of

the cords, improve slowly under the treatment, but a cure may be expected. For the present, oedematous swelling of the mucous membrane is regarded as a contraindication to treatment by the sunlight. Pharyngitis hypertrophica is made worse by treatment, as shown by increased redness and swelling of the mucous membrane. A sudden intense redness of the pharyngeal mucous membrane (healthy) was seen once: sudden intense redness of the laryngeal membrane, accompanied by difficult breathing, twice.

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## SOCIETY REPORTS.

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### The Denver Clinical and Pathological Society.

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The regular monthly meeting of the Denver Clinical and Pathologic Society was held April 14th in the rooms of the Academy of Medicine, the president in the chair. The members were entertained by Drs. Grant, Sewall, Craig, Bergtold, and Rogers.

The records of the last meeting were read and approved.

*Dr. Levy* exhibited a patient, a female, seventy-five years of age, presenting a history of a growth in the right nasal cavity beginning in January, 1903. In August of the same year the obstruction had become complete. On December 27 and 29 large masses of the growth were removed and submitted to Dr. Mitchell, of Denver, and Professor Welch, of Johns Hopkins University, for examination. Both of

them pronounced it to be the round-cell variety of sarcoma. From June 11 to August 4, 1903, before operation, Coley's serum had been used with no result and the use of the X-ray was begun at the same time and continued for one year; that is, from June, 1903, to June, 1904, also with negative result. There was no recurrence of the growth on the right side, but the left side soon became involved, and to such an extent that the case seemed hopeless from the surgical standpoint. In addition, growths, to the number of six, presenting clinically the appearance of sarcoma, but which were not submitted to the microscope, appeared on the legs, the latter not being subjected to the influence of the X-ray. Shortly after the treatment had been discontin-

ued, the nasal condition began to improve, the obstruction entirely disappearing and four of the six growths on the legs also clearing up, the remaining two, however, still continuing to grow to some extent. At the present time the general health seems good. A general discussion of this very interesting case followed.

*Dr. Hall* exhibited a male with diastolic pulmonary regurgitant murmur, and requested the appointment of a committee to examine the case. The president requested Drs. Edson, Bergtold, and Van Zant to act in that capacity. The committee reported that in their opinion there was present a well marked mitral stenosis, presenting at times a diastolic murmur over the pulmonic orifice, supposed to be a relative pulmonic regurgitation.

*Dr. Stover* exhibited: 1, a skiagraph of the radius from the reception of a blow on the wrist; 2, a skiagraph of a case of osteo-myelitis of the tibia, showing sequestra.

*Dr. Hill* exhibited a specimen of urine from a woman in coma. She had lost weight previously and was supposed to be suffering from extra-uterine pregnancy. No sugar was found, but acetone and diacetic acid were present and pus was being discharged per vaginam.

*Dr. Klainer* reported a case of whooping cough in which the paroxysms were preceded by convulsive seizures, later following the cough. Discussed by Dr. Sewall.

*Dr. Beggs* reported a case of glycosuria, the urine showing four and one-half per cent. of sugar and the patient

showing a loss of weight of seventy pounds. Tuberculosis of both apices, with ballici in the sputum, was found.

*Dr. Pershing* reported a case of edema of the right arm in a woman. No cause could be found and the diagnosis of "blue edema of hysteria" was made. Discussed by Dr. Bonney.

*Dr. Levy* discussed the treatment of hysterical aphasia by mental suggestion, but believed a positive diagnosis must first be made. Further discussed by Dr. Bonney, who reported two cases, and by Drs. Pershing, Sewall and Rogers.

*Dr. Bonney* reported a case of pulmonary tuberculosis with recovery followed by mania, the delusions disappearing only after the patient's return to her home in the South.

*Dr. Sewall* reported the case of a boy with a tuberculous family history taken with a sudden pain in the right groin and hip in the night. Examination disclosed localized tenderness at these points. The right leg was fixed and abducted, the pulse not rapid, and the temperature 100 degrees. The next day pain appeared in the left knee, and under treatment the condition cleared up. Discussed by Dr. Bonney.

*Dr. Freeman* discussed the recent article by Murphy in which he speaks of a normal temperature in cases of appendicitis in which pus is present, while in many cases presenting the typical symptoms with elevation of temperature, rapidity of pulse, etc., no appendicitis is found. From experience Dr. Freeman had found that the passage of renal calculi is a condition

in which one may get all the symptoms of appendicitis. Discussed by Dr. Pershing.

Dr. Blaine reported a case of syphilis in which there was no history of primary or secondary lesion, the case being in the tertiary stage. The child had never presented any signs of syphilis. Discussed by Dr. Sewall, who also reported a case of intractable neuralgia requiring large doses of morphia, which was fully relieved by treatment with iodide of potassium. Discussed also by Dr. Freeman, who had operated

on Dr. Sewall's case and removed necrotic bone from the nasal passage.

Dr. Hall further reported on the case of tapeworm exhibited at a previous meeting, stating that it was *Bothriocephalus latus*, quite rare in this country, but found in districts bordering on the Baltic Sea. Its head possesses two lateral grooves and has no hooklets, differing from the tænia in these respects.

The Society then adjourned. Members present 28, visitors 2.

F. W. KENNEY, M. D., Sec'y.

## BOOK REVIEWS.

### THE TREATMENT OF SKIN CANCERS.

By William Gottheil, M. D., Dermatologist to the Lebanon, Austro-Hungarian, and Beth-Israel Hospitals; Consulting Dermatologist to the Sheltering Guardian Orphan Society, etc. Lewis S. Matthews & Co., 2623 Olive street, St. Louis.

Gottheil is a thorough believer in the non-surgical treatment of cancers of the skin. While he recognizes that the treatment of deeper cancers by the plaster or the paste is a delusion and a snare, he maintains that these methods give by far the best results in the superficial cancer, and in this little monograph of 67 pages he presents his case well. We recommend it to every practitioner.

modern medical practice, with their chief synonyms, physical form and appearance, solubilities, percentage strengths and physiological effects, therapeutic uses, modes of administration and application, regular and maximum dosage, incompatibles, antidotes, precautionary requirements, etc.;—a classification of medicaments; and miscellany, comprising poisoning and its treatment;—a comprehensive dose table of chemicals, drugs and galenicals;—urinalysis;—metric system and tables, etc. Compiled from the most recent authoritative sources, and published by Merck & Co., New York.

For a number of years we have found Merck's Manual an exceedingly serviceable volume. In the present issue the work is brought up to date and is specially valuable because of the data on the newer preparations which the physician will find difficult to obtain elsewhere.

MERCK'S 1905 MANUAL OF THE MATERIA MEDICA. A ready reference pocket book for the physician and surgeon, containing names of the chemicals and drugs used in

# The Colorado Medical Journal

AND

## WESTERN MEDICAL AND SURGICAL GAZETTE

*A Scientific Medical Journal, Devoting Special Attention to Tuberculosis and Climatology—A Journal of Science, of News, and of Medical Lore.*

VOL. XI.

DENVER, COLORADO, JULY, 1905.

No. 7

### ORIGINAL COMMUNICATIONS.

#### Clinical Studies at Mount St. Rose.\*

By WILLIAM PORTER, M. D., St. Louis, Mo.

It is not my purpose in this paper to present a finished essay or even continuity of thought on the treatment of tuberculosis. My aim is rather to offer some practical deductions that have been made at the bedside in an institution where the opportunities are abundant, and where oftentimes preconceived ideas are of little worth. It may be that some of these observations are as a twice-told tale to members of this association, and that some will not be endorsed by other members of equal or greater experience. I shall be satisfied, however, if, by what I have to say, I may concentrate observation along lines that have been both interesting and profitable to me. May I add that I shall, for the most part, avoid argument or attempt to fortify my statements by the citation of authority to which we are always indebted, valuable as it might be. Testimony to fact is beyond cavil, provided that testimony is true. The following state-

ments are as I interpret the evidence. I shall make them very brief;

1. *The progress and extent of the local lesions are not pari passu with the general condition in pulmonary tuberculosis.* This may be truthfully said of many diseases, but it is emphatically true, I believe, is pulmonary tuberculosis. We find it so in lobar pneumonia, which is also a specific disease. It is true likewise in many conditions of pus-poisoning and local infection. It is therefore no new proposition, but one that has not been given its full value in formulating our diagnosis and prognosis in this disease. An advanced pathologic stage is not incompatible with fairly good general conditions. Such cases in spite of extensive tissue disintegration, may become chronic, the advance be checked, and the patient live out his expectancy.

2. *Posterior lesions are most aggressive.* Diminution of the percussion note with harsh breathing and

\*Read before the National Association for the Study and Prevention of Tuberculosis Washington, D. C., 1905.

crepitation heard in the upper intrascapular region are suggestive of lymphatic infection and infiltration of the bronchial glands. The cases we have noted of this class run a much more rapid course than those in which the infection has been through the respiratory tract. It is true the premise is hard to prove, but the fact remains that our cases most difficult to control have been those in which the physical evidence was most marked in the upper dorsal region. I would again urge that no chest examination is complete without most careful interrogation of this region.

3. *The number of bacilli is not indicative of stage or progress.* We divide our cases into three classes according to the evidence from physical examination, and five from the microscopical. The three clinical stages are those usually given in the books. The divisions from the microscopical showing are these: one bacillus in a field or only one found in several fields is written down as first class; several in a field as second; an average of six places the case in third class; from six to ten the fourth; and a larger number or "clump" of bacilli are placed in class 5 or 5<sup>+</sup>. Now it often happens that patients in the first or early stage clinically, are in the first or even 5<sup>+</sup> from the bacteriological tests. Conversely, though, this is more rare; advanced cases may show few bacilli. An interesting case is that of a soldier at Jefferson Barracks. Although in the most advanced condition by every test except that of the microscope, there has never been a bacillus found after repeated examinations by Major Bannis-

ter in charge of the Post or by his assistants. It frequently happens that great variation in number is found in the same patient at different times without any physical evidence of change. Hence I am of the present opinion that, while as a diagnostic evidence the bacillus tuberculosis is valuable, it does not aid in determining the stage or location of infection, nor the prognosis as to time or result.

4. *Hemorrhage is not always harmful.* While it is true that hemoptysis is in most cases an indication of tuberculosis, yet the bleeding itself is sometimes palliative, at least for a while. Where there is local congestion, where the bacilli have invaded the walls of small vessels by way of the perivascular lymph-channels, or where there has been inflammatory reaction incited by the tubercular process, a resultant hemorrhage is not an unmitigated evil. Obstruction in the lung to the blood flow may induce dilatation of the right ventricle, and as a remote consequence, congestion of the liver, kidneys and extremities. (Nothnagel.) The local blood-letting may, for a time at least, permit equalization of blood pressure in these parts as well as the lung generally. We have had cases in which there was a marked improvement of the vesicular murmur and a better percussion note within a week after a small pulmonary bleeding. Certainly these cases are exceptions, and too often the hemoptysis is recurrent and followed by vital depression and increase of the physical symptoms, but that the number of these cases warrants some attention, I firmly believe.

5. *Mechanical treatment of hemor-*



*rhage*. Our experience at Mount St. Rose warrants agnosticism as to the value of medication in hemoptysis. The only remedy that seems to have been of the least use is opium, and that only as a tranquilizer, not needed if physical and psychical rest can be obtained without it. Its best effect is to lessen the hacking cough so often persistent. Without discussing the various procedures recommended, I would say that we have found the restriction of movement of the affected lobe the best method for the relief of hemoptysis. A good sized towel is rolled—not folded—till it resembles a wide roller bandage. It is placed over the site of hemorrhage, or as nearly so as can be estimated, either by previous knowledge of the case or by auscultation and palpation—never by percussion under such conditions. The roll is placed in position at right angles to the ribs and half way from the sternum to the outer boundary of the thorax. A wide bandage is then passed around the chest and pressure made on the roll till the thoracic movement of that side is limited. The bandage is then fixed with safety pins, the patient placed in an easy recumbent position, with head and shoulders slightly raised, and an opiate given if there is much restlessness and anxiety. The bandage is adjusted from time to time and kept on for at least a fortnight. There may be more effective methods to control hemorrhage from the lungs, but so far this is the most satisfactory we have tried.

6. *Auto-infection. Indication for use of normal salt solution.* This topic deserves more extended notice.

I believe it to be one of the most im-

portant chapters in the study of the symptoms and care of tuberculosis. Let me briefly call to mind that constipation (with intercurrent diarrhea) is found in most cases of pulmonary tuberculosis. It has been shown that bacilli in the sputum may safely pass the impaired gastric secretions, travel the course of the small intestine, and be found in the fecal accumulations in the colon and rectum, or may pass into the deeper structures or lymph channels or blood channels through an uninjured mucosa. It is not a far cry to the conclusion that reabsorption of bacilli with the products of metabolism and decay from the intestinal tract is a potent addition to the primary infection. That this is more than a hypothesis can, I believe, be demonstrated. There is here a therapeutic suggestion which we try to make practical. In appropriate cases a high enema containing a small quantity of glycerine is given daily for a week. By that time the lower bowel is probably emptied of all scybalous masses. After that the normal salt solution is used in quantities which can be retained. The exact form of treatment may vary but the principle is kept in mind. The reduction of temperature and, in many cases, improvement in assimilation following this part of the treatment certainly suggests cause and effect. The premises may be wrong but the conclusion is encouraging. The fact that other bacteria are factors in temperature increase in tuberculosis does not alter the deduction as to the value of the method.

7. *Large doses of creosote not indi-*

cated. Following the adoption of the suggestion last mentioned we have been willing to greatly lessen the amount of creosote and its substitutes. In fact, except with the idea of improvement of digestion and nutrition (and I confess my want of faith in this) the use of this class of remedies is almost forgotten in our treatment. Certainly large doses of creosote, guaiacol, and their carbonates are not given. Here again I may be at variance with many of our best observers, but I predict that in another decade very little if any of this class of remedies will be used internally in the treatment of tubercular cases.

8. *Control of night sweats by timely stimulation.* The etiology of night sweats in tuberculosis is an unsettled question. It seems reasonable to consider it as an evidence of exhaustion, following, as it generally does, fever and immediately consequent upon pulse decline during a sound sleep. This belief and the regularity of the recurrence has led us to adopt a simple and sometimes effective treatment. The time of the beginning of the sweating is recorded as nearly as may be. Afterwards the night attendant wakes the patient just before this time and gives an ounce of whisky. Other stimulants have been tried, but the whisky seems best adapted. With private patients an alarm clock is sometimes used. Good ventilation, light covering, the method suggested in section 6, and hydro-therapy, especially the spinal douche, are all helpful.

9. *Control of fever.* As the fever in tuberculosis is conceded to result from absorption of the bacilli and sec-

ondary bacteria, the treatment of the fever is too often futile. Rest is a necessity. A degree of fever in our cases means "bed" at least during the rise. More than that means absolute rest. Sometimes patients whose temperature is normal in the morning may be up for a few hours preceding the fever. The room must be well ventilated. Often they lie on cots on the veranda, but the idea of complete rest—mental as well as physical if possible—is maintained. The value of the enema has been spoken of. Remembering the advocacy by good authorities of guaiacol externally in typhoid fever, we have used it in a number of cases of tubercular fever, but the results have not been definite enough to warrant its endorsement. Cool sponging is always grateful. If the temperature is high a basin of water is placed by the bedside for the frequent wetting of a towel which the patient keeps on his forehead, or if need be on his chest. It is still better if an attendant use a sponge, allowing the water to evaporate and re-applying it.

10. *Heart tonics in the early stages with increased lung expansion to encourage pulmonary circulation.* It has been fully demonstrated that heart weakness is a large part of the clinical picture in tuberculosis. In a majority of fatal cases the heart has been found abnormally small and nearly always flabby. Whether this is a result or, as Brehmer interprets, a forerunner of pulmonary tuberculosis, it demands attention, early attention. Diminished blood pressure in the lung favors tubercular processes. The heart muscle partakes

largely of the strength or weakness of the general muscular system. The inference is obvious. In all our cases the condition of the heart is a matter of inquiry from the beginning. Advantage is taken of everything that will tend to relieve lung stasis and strengthen heart action. Rest is ordered when indicated, with exercise carefully guarded, deep breathing, arsenic and strychnine, and in some cases where there is arterial dilatation, digitalis in small doses. I believe our best builder, so far, is the cacodylate of soda in daily hypodermic doses of a grain or more.

11. *Value of alterative expectorants in first and second stages.* Many authorities condemn expectorants altogether in pulmonary tuberculosis. I am not sure that this is right. In many cases there is a chronic broncho-pneumonia in which the tubercular infection is secondary and partial. In other cases there is certainly a larger amount of inflammation than usual from the irrigation of the bacilli. Where there is consolidation and evidences of bronchitis without much crepitation and expectoration, I know that good has followed the giving of some alterative expectorant. I am not sure but that the increase in the number of bacilli expectorated which often results, is to be desired. This is questionable ground, however, and the practice must be guarded. The objection that expectorants may interfere with appetite may be lessened by using a pepsin solution as a vehicle. With this precaution, potassium iodide or ammonium muriate or both may be safely given for a while

at least. The results in a number of selected cases have certainly been something more than mere coincidences. If iodine alone is preferred, it should be in soluble form, well diluted, and given some time before meals to avoid starch reaction.

12. *Cough controlled.* There is no symptom that is more aggressive and oftentimes more yielding than cough in chronic tuberculosis. Our patients are taught how to cough, or rather how to expel the sputum with little coughing. A deep breath is slowly taken and then a quick, strong expiration or "exhaust" as one of the men—an engineer—calls it. In some of our wards there is very little coughing. Where the pharyngeal and laryngeal irritation is great, relief is often obtained by inhaling a few drops of some anodyne mixture; e. g., equal parts of chloroform, alcohol and ether, with a little creosote. This is inhaled from an ordinary drinking glass, or, better still, from a glass tube in the center of which is a little cotton or a small roll of blotting paper. The tube is kept corked when not in use. Sipping hot water is sometimes efficient.

13. *The value of the spinal douche.* No other simple measure seems to give the quick result that this does. In cases where there is poor circulation in the extremities, morning languor, and chilliness, the direction is as follows: The patient early in the morning stands in the bath tub with the faucet turned to throw water of about 100 degrees. A large sponge is held under the faucet and then pressed against the cervical spine. Repeating this several times,

the cold water is turned on and applied as the other. After very slight rubbing with a towel the patient partly dresses and lies down for half an hour. This seems better than the ordinary cold bath or the shower.

14. *Honesty not depressing.* This statement may not be readily conceded. Too many physicians are unwilling to render a serious verdict to the one most concerned. Aside from a therapeutic standpoint, I believe the average patient has a moral right to know the truth. The objection is that often the truth will do him harm, will depress and discourage. I do not find it so. On the other hand, the fact that the patient recognizes that his physician is honest with him and that he is asked by his physician to make the fight with the assurance that he shall know his condition so far as he wants to know, and so far as is possible for the physician to tell him,—this is not half so depressing as the other fact, not to be concealed, that the physician is not telling him the truth and the whole truth so far as he has knowledge. I have never seen harm done by a plain statement of fact. It is hard sometimes, and we gladly shift the responsibility when we can. On the other hand, I have seen new courage and renewed effort come to even desperate cases when, after an honest statement of his condition, the offer was made, "Now you and we will make the fight together. Be brave and we will get all out of your case that is possible."

15. *The personal equation.* Is this unworthy of consideration? Some-

times I think that a large part of the success of the physician is his ability to put himself in the patient's case. This is essentially true in the case of the tubercular. Mental and intellectual conditions should aid in formulating treatment almost as much as the pathological changes. It is this that makes the preceding section seem to me important. Suggestive therapeutics is not to be overlooked. Location, surroundings, association, even food and exercise, should be chosen as far as possible to suit the individuality. Mental occupation or exercise should be as much a part of the study in each case as physical exercise, or chest development, or medication. There is no straight-edge treatment of tuberculosis, but in no other disease is there so much dependent upon a recognition of idiosyncrasy and personal trend. A master artist when asked with what did he mix his colors answered, "with brains." The tubercular patient needs "brain treatment" often rather than the too ready prescription.

(In the attempt to solve some of the problems herein mentioned I have had the untiring and unselfish assistance of our resident physician, Dr. H. H. McDonald, and for encouragement and carrying out of every suggestion in the medical oversight of the work at Mount St. Rose, I cannot but acknowledge my indebtedness to the Sisters of St. Mary, whose devotion to the unfortunate victims of tuberculosis is a daily incentive in the effort to accomplish something worth the while.)

## Twenty Cases Illustrating the Frequency of Mistakes in the Diagnosis of Pregnancy.

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These cases are only samples. Other similar ones might be recorded.

*Case 1.* The physician diagnosed a shoulder presentation, and, after three days of "pains," he called in a consultant, who found pseudocyesis and a retroverted and atrophied uterus. The mother of the patient believed the "pains" due to a tapeworm and the "change of life," and subsequent events proved this to be true.

*Case 2.* After menstruation had been absent for over two months, a slight bloody flow occurred. Without making an examination, the symptoms being slight, the physician treated the case as a threatened miscarriage. A slight flow again occurred after a month or so and was similarly treated with good results. Later "life" was felt, and at the supposed eighth month the physician was called again. By abdominal examination he could not find the uterus, but, by vaginal examination, he found it quite small and with a little vascular growth on the anterior lip of the cervix.

This woman had had children and thought that she had all the usual symptoms, morning sickness, "life," enlargement of the abdomen, etc., but she was really passing through the menopause, and this change caused the symptoms

which simulate pregnancy, and the vascular tumor caused the bloody discharge.

*Case 3.* During early lactation, backache, pain in the groins and flowing occurred the first part of each week. By examination the cervix was found open, the uterus tender and not larger than a uterus of subinvolution. The symptoms suggested subinvolution rather than pregnancy, but, as the patient had a pain in the veins above the ankle, which she always had when pregnant and at no other time, the diagnosis was withheld. Later pregnancy was diagnosed, and at the confinement the membranes showed decidual endometritis.

If the painful veins of the ankle had not been present, the pregnant uterus would have been curetted.

*Case 4.* A young nullipara, after over four months of menstrual suppression, felt quickening; then in two or three weeks she had a profuse hemorrhage. Following this hemorrhage, there were no fetal movements and the abdomen diminished in size for about a month, when she was examined by a physician, who said that she was not pregnant. Eight months subsequent to her last regular menstrual period she became anxious about her

condition, as the abdomen was again getting larger, and consulted a physician, who easily mapped out an eight-month fetus.

*Case 5.* A multipara, two months after her last menstruation, was examined by a gynecologist, who said that the uterus was absolutely too small for pregnancy to exist. An examination six months later showed a normal eight-month gestation.

*Case 6.* A large, fleshy woman, supposing herself four months pregnant, was examined by her physician, who said she was not pregnant, and that the sensation like quickening was due to gas in the bowels. At the end of nine months she had cramps and thought she was about to be "unwell" again, and called in a physician, who washed his hands rapidly because of the suspicious pains. The head was found on the perineum and was expelled in a few minutes. She had such confidence in her physician's diagnostic abilities, that, although she had had two children, she did not think she was in labor or even pregnant.

*Case 7.* After several months of menstrual suppression, the patient was examined by a physician, who told her that a lower altitude would do her good. She came to Denver and felt better until she took a misstep, which was followed by pain in the lower abdomen. By examination the cervix was found firm, and, to the right and in front of the uterus, there was a large mass like a plaster cast, which seemed to have pushed the broad ligaments into the abdomen. From the history and examination, a diagnosis of pregnancy in the uterus or tube,

more probably in the latter, was made. An incision into the broad ligament per vaginam disclosed a full-term placenta, but no fetal remains could be found.

*Case 8.* The first physician diagnosed an abscess in the broad ligament and evacuated it through the vagina. Later, the patient came to Denver and the abscess in the left side of the pelvis was reopened and found to extend to the right side of the uterus. The mass lessened rapidly in size and the patient became apparently well. Later she ate carrots and had severe cramps, followed by great tenderness in the left side of the abdomen. A large mass was found in the left side of the pelvis extending into the abdomen. The old abscess was reopened, and from this an opening was made into the apparently new mass and a well-formed placenta was removed. The abscess in the right broad ligament, probably at first a pus tube, was so large that it had extended over the left broad ligament, covering the extra-uterine pregnancy in the left tube. Considerable improvement followed this operation, but another dose of carrots caused severe cramps, as on the previous occasion, and set up a more extensive inflammation, which, together with her weak condition from morphinism and a long illness, resulted in death from septicemia.

*Case 9.* A multipara, about two months after suppression of menstruation, had "pains," hemorrhage, and expulsion of placental-like tissue, followed by a rise of temperature. Because of these symptoms, an incomplete miscarriage was diagnosed and the uterus curetted. Only a little decidua tissue

could be found and this was attached to the left side of the uterus. On the left side of the cervix was an old tear, extending well into the left vaginal fornix and broad ligament. Cicatricial tissue at the site of this tear pulled the cervix and uterus to the left. The patient said she had had trouble in her left side since one of her children was born. Nothing abnormal could be felt in the left broad ligament, except the thickening at the site of the tear. After the curettage she apparently got well, and the doctor stopped calling. Later, she became sick and was taken to a hospital, where two or more gynecologists examined her abdomen and diagnosed a nodular fibroid uterus. The abdomen was opened. The apparent fibrous nodules were found to be due to adhesions of the omentum to the fundus of the uterus, and in the left broad ligament was a ruptured extra-uterine pregnancy.

*Case 10.* In a multipara a small fibroid was first diagnosed in the uterine wall. When suppression of menstruation occurred pregnancy was suspected. Later, two physicians diagnosed a dermoid cyst of the right ovary and advised an operation. The abdomen was opened. No disease was found in the ovaries, but an enlarged, thick uterus appeared. The possibility of a dead fetus was expressed. Six weeks later the abdomen was examined by another physician, and a living fetus easily palpated. At the end of another six weeks the patient was confined, and no tumor of the uterus was apparent, the hand being introduced to the fundus.

*Case 11.* In a multipara the last two

menstrual periods continued about two weeks each, the flow being stopped, each time, by ergot. During the second, third, and fourth months of menstrual suppression, the patient passed what were called "casts of the uterus," and was treated locally during this time twice a week for "womb trouble." During the fourth month of suppression the patient supposed she felt "life," but two physicians considered this to be gas, and diagnosed a tumor of the bowel. The abdomen was opened and normal ovaries were found, with an enlarged and softened uterus. The possibility of pregnancy was thought of, but about two weeks later this idea was discarded, and the patient was asked to have the tumor removed, but she objected. Another physician then examined her. He thought that pregnancy existed, and was sure of it in another month. Severe suffering from tension in the region of the abdominal incision occurred during the last month, but just nine months from her menstruation she had an easy, natural confinement.

*Case 12.* An unmarried woman of 17 was examined by two gynecologists at different times. Both diagnosed a uterine tumor. After the last examination by one of these gynecologists, who was her family physician, severe pains occurred. During the next five days the pains continued, and, as her own physician was out of town, two physicians were called in succession. The latter found the patient in collapse, in labor, the head of the child being on the perineum, where it had probably been for hours. The patient was delivered, but soon died of exhaustion.

*Case 13.* In a school girl, following intercourse, the menses were suppressed, and, at the end of three months, nausea and vomiting occurred for two weeks. She was examined several times by a physician, the last time over four months after the last menstruation. He said he could not find any signs of pregnancy, but advised the young man in the case to marry the girl. A little over six months after the menstrual suppression, she was examined by another physician, who found all the signs of pregnancy well marked, although the young lady said she had not felt "life" and did not know that she was any larger than usual, but at times thought she might be. With the second physician's added advice they were married, and soon there existed a happy father and mother.

*Case 14.* In the early months this patient attempted abortion but failed. At about the sixth month there were symptoms of threatened miscarriage and the patient was afraid that something was wrong as she had seen and felt two tumors in the lower abdomen several times. These seemed to her to be separated by a well marked depression. She had felt "life" mostly on the right side. An examination showed the cervix soft and high up to the left; the region above the anterior vaginal fornix very soft; in the abdomen to the right and about two fingers below the navel, the upper limit of a soft mass which felt like a pregnant uterus; to the left and above the navel, the upper end of a mass which felt like a fetus, and over which were fetal-like movements, but no fetal heart sounds. The mass to the left seemed to be con-

tinuous with the soft mass in the anterior vaginal fornix. Nothing like a fetus could be felt at the brim of the pelvis. Upon a second examination of the mass to the right, the pressure caused the patient to desire to urinate and after she had emptied her bladder the tumor to the right was gone, and the other tumor was more in the median line and lower. In this case the uterus had probably frequently been pushed up into the abdomen and to the left by the over-distended bladder. She finally gave birth to a premature child which soon died.

*Case 15.* The patient, aged 21, had been married thirteen and one-half months at time of examination. She had had a three-months' miscarriage nine months before, but was well one month after miscarriage. Last regular menstruation was about two weeks before marriage. Between this menstruation, and the time of the examination, a slight, irregular flow occurred every three or four months. "Life" was not felt with first pregnancy, but about three months after the last regular menses she thought she felt it, a little to the left and below the navel, running from right to left. Other symptoms were nausea and vomiting at the fifth month for two weeks (none occurred with the first pregnancy), frequent micturition, nervous irritability, varicose veins, enlargement and painful sensations of the breasts, enlargement of the abdomen for four months, shooting pains through the lower abdomen into the left side, and backache for three or four months before the examination. At the time of the examination the patient stated that she supposed she was



about eight months pregnant, but was a little uncertain because of the irregularity in her "monthlies."

The examination per vaginam revealed a soft cervix and a mass like a thickened cyst or possibly the body of the uterus in the anterior fornix. The finger could not be passed beyond this mass in front of the cervix, and nothing could be felt in the *cul-de-sac* of Douglas. The abdomen did not seem large enough for an eight-month pregnancy, but, by palpation, a mass could be felt with its right border to the right of the right rectus muscle, its upper border just below the navel, and its left border in the left axillary line. Abdominal percussion elicited tympanites with the patient in the dorsal decubitus, and dullness over the region of the mass in the standing posture. By auscultation, only sounds similar to those produced by gas in the intestines could be heard. No fetal movements, fetal heart sounds, or ballottement could be obtained. The abdomen was very tense.

The possibilities of an extra-uterine pregnancy, an ovarian tumor, or a normal five or six months' pregnancy were considered and the patient was told that, because of the tenseness of the abdominal wall, a positive diagnosis of her case could not be made at once, and that, by taking citrate of magnesia and following it with salts for three or four days, the abdominal wall ought to relax sufficiently to permit of a more thorough examination.

At the second examination, five days later, the uterus was found slightly ante-flexed and possibly large enough for a three-months' pregnancy, and the

abdominal mass was gone. The patient said that after taking the magnesia she passed a very large amount of gas, and that her bowels moved as if they had not moved for months. She had been storing up fæces and gas for about eight months, with only a little apparent constipation. This accumulation had caused the sigmoid flexure region of the bowels and possibly the very upper part of the rectum to distend sufficiently to form a tumor filled with gas and fæces the size of the mass mentioned in the examination.

*Case 16.* A primipara at about the fourth month felt a little soreness in the right side of the lower abdomen, and this occurred at times during the rest of the pregnancy. During labor the physician in charge diagnosed twins. One child was born, and then the "pains" stopped. After waiting two weeks, the possibility of a fibroid tumor was considered, and upon consultation a large hard mass was found which corresponded in shape and size to a uterus containing a nine-months' fetus.

The mass was adherent to the pelvic wall high up on the right. By introducing two fingers into the uterine cavity, the mass was found to be continuous with the anterior wall of the uterus and to extend far beyond the uterus, which was still subinvolved. This woman has since become pregnant again and has been delivered without the large fibroid causing any trouble.

*Case 17.* The physician in attendance treated the patient several times because of pains and slight hemorrhage, as if she were suffering from a threat-

ened miscarriage. He did this without making an examination, because of the fear of causing a miscarriage. Finally, during one of these periods of pain and flowing, the attending physician could not be obtained and another physician was called, who, on account of the severe "pain," made a gentle examination of the cervix, and found it closed. As the other physician had made no examination, force was not used to find the fundus through the very fleshy abdomen, but, after a few days, this physician telephoned to the attending one and asked him if he had thought of the possibility of the patient not being pregnant. The latter said he had not and would examine her. His examination proved the absence of pregnancy.

*Case 18.* During the year 1900 a well-known professor of obstetrics diagnosed an extra-uterine pregnancy, cut open the abdomen, found twins in the uterus and everything normal.

Of cases previously reported the following, taken from Bedford's *Obstetrics*, are of special interest:

*Case 1.* Several consultants diagnosed ascites and recommended paracentesis. The operation was performed with the result that the patient died of sepsis. The autopsy showed that the trocar had penetrated the heart of a living fetus.

*Case 2.* A very refined young lady, the daughter of a clergyman, became engaged to a young barrister of great promise and respectability. Shortly after this her health became poor, she left society, and her form soon presented the characteristics of pregnancy;

her appetite became capricious and she

had gastric irritability. Her so-called friends first speculated and then rumored that she was pregnant. The barrister, instead of standing by her in her hour of need or until time could prove the condition, increased the poor girl's sorrow by writing to her father asking his release from the engagement. At this stage the girl asked that a physician be called so that she might prove her innocence. But this only made matters worse, as did subsequent consultation, for all agreed that she was undoubtedly pregnant. The clergyman brought his daughter to America to get away from the old associations, though he himself had no doubt of his daughter's purity. In New York he met Dr. Bedford, who, after getting a careful history and making a thorough examination, said that the young lady was positively not pregnant, but was suffering from a fibroid tumor which had simulated the symptoms of pregnancy. He also told her father that she was in the last stage of consumption. In two weeks she died. At the autopsy the father watched every stage of the operation, and when the tumor was removed he grasped it convulsively and said, "This is my trophy, and I will return with it to England and it shall confound the traducers of my child." Here reputation and probably life were sacrificed by an error of judgment.

#### SUMMARY.

These cases demonstrate the frequency of mistakes and illustrate:

1. Unpardonable error.
2. The necessity of an examination when abnormal symptoms are present. and the fact that subinvolution and pregnancy may co-exist.

3. The value of special symptoms.
4. That fetal movements may disappear, the abdomen diminish in size, and pregnancy nevertheless continue to a normal labor.
5. That, to the experienced examiner, a two-months' gestation may produce no apparent increase in the size of the uterus or any other definite sign of pregnancy.
6. That a multipara may be pregnant and in labor and not know it.
7. That in tubal pregnancy the fetus may die early, the placenta grow to term and cause very few symptoms.
8. That in salpingitis, a large pus cavity may exist in one broad ligament and an extra-uterine pregnancy in the other.
9. That adhesions of the omentum, the result of an extra-uterine pregnancy, may simulate a nodular fibroid uterus.
10. That a thick-walled seven-months' pregnant uterus may be mistaken for a dermoid cyst of the ovary.
11. That a five-months' pregnant uterus may resemble a tumor even after the abdomen is opened.
12. That a woman may be in labor and be treated for something else with fatal result if an examination is not made.
13. That even after the fourth month some physicians say that there are no signs of pregnancy, either through lack of skill or to prevent criminal abortion.
14. That a distended bladder during pregnancy may raise the uterus and itself high in the abdomen and produce signs of twins, a double uterus, an extra-uterine pregnancy, or pregnancy complicated by a cystic tumor.
15. That fecal accumulations may distend the bowels so as to produce a tumor that will cause all the subjective signs and some of the objective signs of a five- or six-months' pregnancy.
16. That a pregnant fibroid uterus may simulate twins and apparently contain a fetus after one is born.
17. That amenorrhea with an occasional slight discharge of blood in a fleshy woman may be treated for threatened miscarriage if a careful examination is not made.
18. That extra-uterine pregnancy may be diagnosed in normal multiple pregnancy.
19. That ascites may be diagnosed during pregnancy and paracentesis cause death of the fetus.
20. That tuberculosis and a uterus enlarged by a fibroid may closely simulate pregnancy.

## Light—Its Therapeutic Importance in Tuberculosis as Founded Upon Scientific Researches.

By J. MOUNT BLEYER, M. D., F. R. A., M. S., LL. D., New York City.

Chairman on Light and Electricity, American Congress on Tuberculosis, held at St. Louis, October, 1904.

*(Continued from the June Number.)*

"This reversal at night," says a most talented philosopher, "of what was done in the day, may, at first sight, appear a variance with the unity of the plan which we should expect to find preserved in the vegetable economy, but a more attentive examination of the process will show that the whole is in perfect harmony, and that these contrary processes are both of them necessary in order to produce the result intended."

He then, evidently feeling the difficulty of the question, proceeds to explain this harmony as follows:

"The water which is absorbed by the roots generally carries with it a certain amount of soluble animal and vegetable materials which contain carbon. This carbon is transmitted to the leaves, where, during the night, it is made to combine with the oxygen they absorb. It is thus converted into carbonic acid, which, when daylight prevails, is decomposed, the oxygen being dissipated, and the carbon retained. It is evident that the object of the whole process is to obtain carbon in that precise state of disintegration to which it is reduced at the moment of its separation from carbonic acid by the action of solar light on the green substance of the leaves; for it is in this state alone

that it is available in promoting the nourishment of plants, and not in the crude condition in which it exists when it is pumped up from the earth along with the water which conveys it into the interior of the plant. Hence the necessity of its having to undergo this double operation of first combining with oxygen, and then being precipitated from its combination in the manner above described." These passages are selected, not with any view of reflecting upon their accomplished author, but because they afford the best expression of the views which have been generally entertained on the strength of the experiments of Sausure and Grishchew, which admit of another explanation.

It is the green parts of plants, principally the leaves and to a less extent the bark, which absorb carbonic acid. Plants grow in soils composed of divers materials, and they derive from these by the soluble power of water which is taken up by the roots and by mechanical forces carried over every part, carbonic acid, carbonates and organic matters containing carbon.

Evaporation is continually going on, and water escapes freely from the leaves during the night, when the functions of the vegetable, like those of the ani-

mal. world, are at rest. "A cotton wick," says another experimental philosopher, "enclosed in a lamp which contains a liquid saturated with carbonic acid, acts exactly in the same manner as a living plant—in the night. Water and carbonic acid are sucked up by capillary attraction, and both evaporate from the exterior part of the wick."

A plant placed in a vessel containing water impregnated with carbonic acid and carefully closed, so that no water could escape by evaporation except through the plant, was placed under the receiver of an air pump in which was put some pure potash, and a good exhaustion effected. The potash was found to have absorbed carbonic acid. The same arrangement was made, only that the water now used was distilled. Under the same circumstances in every respect, a like quantity of moisture was found to be absorbed by the caustic potash, but of course no carbonic acid. In these experiments the carbonic acid and water were mechanically drawn through the plant.

Precisely similar arrangements were placed under bell glasses filled with atmospheric air which was dried and freed from carbonic acid by exposure to potash for some time. In neither case could any diminution of the quantity of oxygen be detected, but traces of carbonic acid were found in the air in which the plant in the carbonated water was placed. These experiments were in the dark, and eudiometric examinations of this air have convinced Mr. Hunt that some oxygen is always given off.

There is no reversion of the processes which are necessary to support the life of a plant; the same functions are operated in the same way by day and by night, but differing greatly in degree. During the hours of sunshine, the whole of the carbonic acid, absorbed by the leaves or taken up with water by the roots, is decomposed, all the functions of the plant are excited, the processes of inhalation and of exhalation are quickened, and the plant pours out to the atmosphere streams of pure oxygen, at the same time as it removes a large quantity of deleterious carbonic acid from it. In the shade, the exciting power being lessened, these operations are slower, and in the dark they are very nearly, but certainly not quite, suspended.

We have now certain knowledge. We know that all the carbon which forms the masses of the magnificent trees of the forest, and of the herbs of the fields, etc., has been supplied from the atmosphere, to which it has been given by the functions of animal life and the necessities of animal existence. Man and the whole of the animal kingdom require and take from the atmosphere, its oxygen for their support. It is this which maintains the spark of life, and the product of this combustion is carbonic acid, which is thrown off as the waste material and deteriorates the air. The vegetable kingdom, however, drinks this noxious air; it appropriates one element of this gas, carbon, and the other, oxygen, is liberated again to perform its service to the animal world. It is not possible to conceive a more perfect, a more beautiful system of harmonious arrangement than this,

making the animal and the vegetable kingdoms mutually dependent. The existence of the one ceases when the other is destroyed. If the vegetable world was swept away, animal life would soon become extinct; and if all animal existence was brought to a close, the forest would fall and the flowers of the field, which now clothe the earth with gladness, perish in the utterness of a lamentable decay. It has been supposed that the vegetable world was called into existence long previous to the creation of animals, and to this period is referred the formations of the coal strata. There might have been an epoch when the disturbed condition of the earth—its earthquake shocks, and volcanic strugglings—may have poured so large a quantity of carbonic acid into the atmosphere, as to have rendered this planet unfit for the habitation of animals, until a teeming and most gigantic vegetation, by exhausting it for its own supply, purified the air and rendered the more quiet earth a fitting abode for creatures endowed with reason and with instinct. But the hypothesis is unsupported by facts, and it is not within the range of probabilities that the animal and vegetable kingdoms can ever have an independent existence.

The animal kingdom is constantly producing carbonic acid, water in the state of vapor, nitrogen, and in combination with hydrogen, ammonia. The vegetable kingdom continually consumes ammonia, nitrogen, water and carbonic acid. The one is constantly pouring into the air what the other is as constantly drawing from it, and thus is the equilibrium of the elements maintained.

Plants may be regarded as compounds of carbon, vapor, oxygen, hydrogen, and nitrogen gases, consolidated by the all-powerful, all-pervading influences of the solar ray; and all these elements are the produce of the living animals, the conditions of whose existence is also greatly under the influence of these beams of sunlight which are poured in unceasing flow from the center of our system.

Can anything more completely display a system of the loftiest design and most perfect order, than these phenomena?

#### THE SOLAR RAYS AND THEIR INFLUENCE ON CHEMICAL COMBINATION.

There are many examples which show clearly the influence of the solar rays upon chemical combination. Here are a few remarkable instances which are worth our notice. Vogel observes, that if chlorine was passed into alcohol nearly saturated with that gas, and at the same time exposed to the sunshine, each bubble of chlorine, as it entered the spirit, exploded, giving a bright purple flame and a white vapor. This experiment I have repeated and found that the effect depends entirely upon the agency of the chemical radiation. The interposition of an orange glass, or a yellow fluid, is quite sufficient to stop this energetic chemical combination.

It has long been known to chemists, that a mixture of chloric and hydrogen gases might be preserved in darkness, without combining for some time, but that exposure to diffused daylight gradually accomplished their combination, whilst the direct solar rays produced the sudden inflammation of the

mixture. This combination has been investigated by Gray, Lussac and Thenard; and also by Davy. Sir Humphry Davy states, that in mixture chlorine and hydrogen acted more rapidly upon each other, combining without explosion, when exposed to the red rays, than when placed in the violet rays. But he found that a solution of chlorine in water became a solution of muriatic acid most rapidly when placed in the refrangible rays. The former statement is doubtful.

My own experiments appear to show that the combination of these gases may be effected in every part of the prismatic spectrum, but that it is entirely independent of the luminous rays. I have kept chlorine and hydrogen without uniting, behind a yellow medium, for as long a period as I have been able to preserve the mixture in the weakest diffused daylight. It does not, however, appear to be quite independent of calorific influence; for it is found that the combination is effected gradually under the influence of the dark rays of heat.

We have evidence to show that the chemical agent, whatever it may be, which accompanies light, is diffused over every part of the prismatic spectrum, although its action is modified by the luminous and calorific influences. Now, as it is proved that a very small amount of actinic power will occasion the chemical combination of these gases, we can well understand that it is diffused over the whole of the rays, although in different degrees.

Dr. Draper has shown that the light of a taper produces a decided effect upon the mixed gases, chlorine and hydrogen, and also that the light emitted during the rapid passage of the electric spark, acts powerfully upon them. For speed of action no tithonographic compound can approach it; a light which perhaps does not endure the millionth part of a second affects it energetically. In the red the chemical influence is pretty active, and this, combined with the thermic power of that ray, accounts for the phenomenon observed by Davy. I have found, however, that the combination is effected with the greatest speed by the extreme blue and indigo rays. Dr. Draper has fixed the maximum in the indigo rays, and giving a numerical value to the forces exerted by the different rays he calls the maximum power of the

Indigo ray .....	240.00
Blue ray .....	144.00
Violet ray .....	121.00
Green ray .....	54.00
Extra special ray .....	12.00
Yellow ray .....	2.00
Orange ray .....	.75
Red ray .....	.50?

The red ray should have a much higher power than is here stated, as it is found it is quite equal to the green ray, and I think superior to it in effect, since it has been shown that if glass tubes of small bore are used, the combination of the gases can be effected without any explosion.

Taking advantage of the action of the sun's rays upon these gases, Dr.

<sup>1</sup>*Tithonicity* was a name given by Dr. Draper to the chemical rays, but which is perhaps badly chosen; and certainly not at all in accordance with the Lavoisierion principle of nomenclature.

Draper devised an instrument for measuring the chemical force exerted by light. This instrument consists essentially of a mixture of equal volumes of chlorine and hydrogen which is evolved from and confined over muriatic acid, in a graduated bent tube. The gases are liberated from the liquid acid by the agency of galvanic electricity. Platinum wires, which can be connected with a voltaic battery, are inserted into the tube in such a manner that when the required quantity of the gases is formed the decomposition ceases, owing to the fluid having fallen below the wires. The gases combine in a longer or shorter time, according to the amount of light, the number of degrees over which the fluid falls in the graduated arm in a minute giving relatively the force in action. This

instrument is certainly a very ingenious application.

The formation by the sun's rays of precipitates which do not occur in the dark, has engaged the attention of Sir John Herschel; but further investigations are required. Phenomena which have been observed lead me to believe that under no circumstances, where the changes are gradual, does precisely the same thing take place in darkness as in daylight. As far as observations have gone, it is found that in all cases where precipitation does not take place immediately upon mixing two solutions, there is a marked difference in the time required for precipitation to ensue in a fluid kept in the dark, and in one exposed even to diffused daylight, this being, of course, more strikingly shown if one fluid is placed in the sunshine.

(TO BE CONTINUED.)

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## Tuberculosis in the Negro: Causes and Treatment.\*

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By JOHN E. HUNTER, M. D., Lexington, Ky.

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*Gentlemen of the American Anti-Tuberculosis League:*

We bring to you the greetings of the National Association of Colored Physicians and Surgeons, and assure you that we are greatly interested in this work and gladly join in the battle against the "white plague."

I do not attempt to bring to you on this occasion a volume of statistics and theories on the subject of tuberculosis, for Koch and some of our own bacte-

riologists in this country have taken this matter out of the uncertainty of theories, and placed it upon the plane of facts.

The history of the American negro before the war shows that he was comparatively free from tubercular infection, although no special statistics were very accurately kept along that line, as it concerned mostly his master. It is reasonable, however, to suppose that it was a very rare thing for him to fall a

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\*Read before the American Anti-Tuberculosis League, Atlanta, Ga., April 19, 1905.



victim of that disease, or his commercial value would have been depreciated in those days.

The official statistics, as compiled, and that, doubtless, somewhat imperfectly, show that the death rate from tuberculosis is much greater at present in the negro than in the white race; and that increase has taken place since he became a free man. In stating this fact, I want to thank Dr. Seale Harris, of Union Springs, Ala., for his very excellent and fair paper which he prepared on the subject of "Tuberculosis in the Negro," and read at the fifty-fourth annual meeting of the American Medical Association. It was explicit, systematic, scientific, and reasonable, and given in the spirit of sympathy for the weaker brother; and, in view of my appreciation of his fairmindedness, I wish to add this part of his paper to mine. He says: "I am not an alarmist, and this paper, which calls particular attention to the weak points of the negro, is written for no other purpose than to call attention to the alarming increase of tuberculosis in that race, in the hope that something may be done that will lessen the frightful mortality of the disease in this generally kind-hearted people."

Digressing somewhat, since we have to admit the fact that the pendulum of mortality from tuberculosis has swung too far to our side, we can only content ourselves in this sad hour with the boasts of our fathers, that in the days of slavery they could eat with impunity and grow fat on the bacilli of yellow fever, while their beautiful young mistresses and athletic young masters would either have to take to the woods

or suffer the ravages of the disease. We can say, however, that our birth rate is still at par, if not a little above. So, in view of the fact that we have kept out of the way of this monster since we have been free, by reason of the inexperience and vicissitudes that naturally follow a new birth of people, we come to you, gentlemen, whose race has never known the yoke of bondage, and whose civilization, education, and ruling power of the world are as old as the birth of Christ, that you may teach and help us to improve our environments, so that we may lower this very undesirable mortality, and thereby help all mankind.

The study of the classes of the colored race reveals the same facts that such a study would reveal in any other race. Those who, by reason of industry, education, and morality, have lived above the environments that are conducive to tubercular tendencies, have a very low death rate from tuberculosis. The same is true, not only of classes of individuals of the same race, but also of nations. The death rate of the American Indian from tuberculosis exceeds that of any other race in the United States. This is due to his environments, lack of ability for self-government and of knowledge of hygiene and the laws of health. The same is true of the Chinese, whose death rate from tuberculosis exceeds that of any other civilized race of the world.

Tuberculosis in the negro is caused by the same tubercle bacilli that infect other races. The growth and development of these bacilli are influenced by the soil in which they find lodgment. Hence the cause and treatment of tu-

places, the schools, the churches of our people, and preach the gospel of pure air. We know the masses, their habits and needs as well. We have endeavored to decrease the death rate from this disease in our race, and, by the help of God, we expect to do more in the future. We have not only tried to check the spread of disease in the unsanitary places, where many are forced to live by reason of low wages, and others because of their bad habits and other circumstances over which they have not entire control; but we have been just as faithful in keeping its spread from the white families for whom these unfortunates work, as our fathers were faithful to their masters' families while they were in the battle-fields fighting for the Confederate cause. We do our whole duty!

1 In view of these facts, do you not think that, where there are competent colored physicians, valuable help could come to a community by some of them being on the Boards of Health? They are on the Pension Boards, and are paid for it, and why should they not be on the boards that seek for the betterment of the health of all?

#### THE TREATMENT OF TUBERCULOSIS IN THE NEGRO.

The treatment of this disease in the negro consists of fresh air and plenty of it, proper food and clothing and enough of them, and at the same time preventing the patient from infecting others and reinfecting himself. The question of travel for the negro of some means and intelligence, seeking health in sanatoria, is not worthy of consideration at this time; for a sick

man traveling without civil rights, not knowing where he will be permitted to shelter his weakened body and quench his parching tongue, had better, yes, far better, remain at home with his family, and trust God for the rest. But with the brain and aid of such men in the front as constitute this organization, and that of municipalities, states, and federal government, together with our own greatest efforts, we may look up, with hope.

I hail from one of the greatest states in the union, the home of Henry Clay, the brainy and fearless Breckenridges, Ephraim McDowell, the father of abdominal surgery, the birthplace of Jefferson Davis and Abraham Lincoln, and the home of the now living and very active Mayor Thomas A. Combs—"Old Kentucky"—representing the fairest, the greatest and most pretentious city of its size in all of the world, Lexington, Kentucky.

When I moved into the home I now occupy, I was the only man and property owner of my race living in that square. As the city had not water pipes along that street, it became necessary for the property holders to build a private line. We came together, collected the money, and constructed the line. When completed, we all had water, and enjoyed all the benefits of its proper use. This was a common need of us all, and, as a business proposition, we united and got it. In the same home, I have had parties, and it has always been my choice to invite colored people, and all the people that have attended these parties have likewise been colored people. My white neighbors have also had their parties, and, as far as I know,

all of their guests that were invited and attended were white people. I have never felt slighted, neither has my family, by not being invited to their social functions, and I do not believe they have felt slighted in the least by not being invited to ours, as they treat me and my family very neighborly still. This was a matter of choice, a social affair, one that always has and always will adjust itself if let alone. Socially, we are just as distinct and separate as the taps which lead the water into

our different yards; but when it comes to the general good of the neighborhood, the best interests of the property holders, we are as the main pipe we all laid—united. Tuberculosis is a deadly scourge in the land, emitting its deadly germs seeking those they may devour, entering your home and my home, placing crape on our doors, causing tears and sorrow within. We must fight together and destroy this enemy, or else we ourselves will be destroyed, separately, by it.

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It is stated that the Prussian ministry for railways has placed at every important railway center throughout the kingdom a magnificently built and appointed car for the transport of sick persons. These cars have been specially fitted up from plans supplied by sanitary authorities. Spring beds and every medical device for the alleviation of suffering during transit have been utilized. There are ice safes, gas stoves for cooking, rooms for attendants, and ingenious devices for muffling the sound caused by the motion of the train. It is not intended to make these carriages pay; they have been instituted chiefly on the ground of humanity.

the school children of Kansas City are already being considered by the school board. The city medical department has offered to work in conjunction with the board in keeping down diseases of a contagious nature among the pupils. The school board will instruct the principals of the various schools to notice especially the pupils coming from the districts in which there are contagious diseases, and, should any of the pupils show symptoms of illness, to send them to their homes at once. During last year there were a number of cases of typhoid fever. Especially was this prevalent in the high schools. The fatalities from this malady during the year were eight students and one teacher. In the city physician's report, however, no cases of typhoid fever are mentioned.

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Precautions for the prevention of contagious diseases epidemic among

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## EDITORIALS.

### CLINOGRAPHY, TOPOGRAMS, AND SEMIOGRAMS.

According to Professor V. Pensuti, Chief Physician in the Hospitals of Rome, etc., in an article entitled "The Universal Method of Clinical Writing by Means of Clinography," published in the *Journal of the American Medical Association*, May 20, 1905, "The medical world feels the necessity of gathering together the clinical histories of the patients in a uniform method, so as to render them easily understood by all, and thus utilize them for increasing medical knowledge.

"The method which I published a year ago, and which now is known and practiced in the principal centers of Italy, in the hospitals and the ambulances, has been proved by me for many years in the largest number of cases which I have observed in private practice and in the hospitals. \* \* \*

"I have given the name of 'clinography,' or universal method of clinical writing' to my system. It has two objects. The first object is to express the narration of the facts by means of a history in the Latin language. \* \* \*

"The second object consists in presenting a diagram; that is, a figure representing the parts of the patient, which are examined by means of physical examination, percussion, palpation, etc., and showing the results of these examinations. Therefore, the diagram is made by means of topograms, showing examined parts, and semiograms, which represent the various symptoms which have been found by the physical examination."

than of practical value today. The average Italian physician may be able to use the Latin language fluently enough to make it valuable in his writings. The same might possibly hold true of other nationalities of Continental Europe. When it comes, however, to the English-speaking physician, whether of England or America, to suggest that he employ Latin would probably cause a chill to course up and down his vertebral column. English

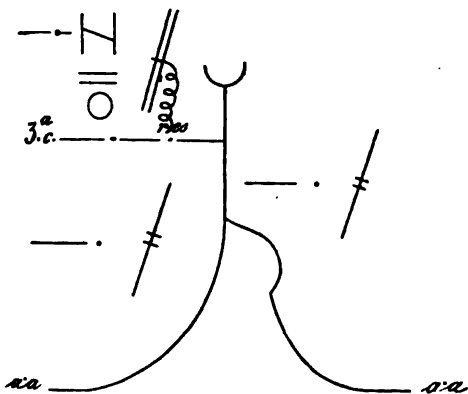
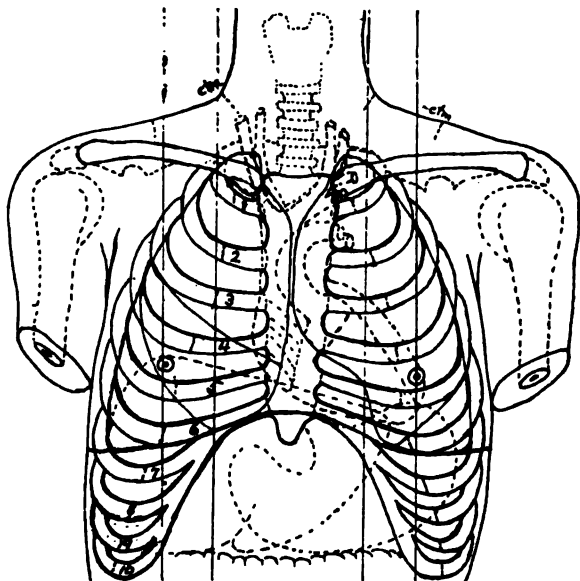


Figure 2.



Then Professor Pensuti proceeds to unfold his "universal method," which, notwithstanding the fact that it is "now known and practiced in the principal centers of Italy," is rather unpractical, to say the least.

**Language.** The first criticism which we have to offer concerns the proposition to use the Latin language in which to write the history. Latin is a dead language, so dead that it scarcely produces a shadow, and it is more of historical and literary interest

is the most important world-language of today and probably of the future. A universal language, in our generation at least, is an impossibility.

**Topograms.** The only thing which can be said in favor of Pensuti's topograms is that they require no printing, as they can be drawn free-hand to suit each case. There are many difficulties in the way of a general adoption of topograms, but that they may be drawn free-hand scarcely advances that aim. The serious objection to

those proposed by the author of the article is that they scarcely convey to any but the thoroughly initiated any idea or conception of what they are to represent. The best topogram is undoubtedly a printed anatomical outline. No better demonstration of this fact is needed than the comparison of Pensuti's Fig. 2, herewith reproduced, with the corresponding anatomical outline likewise herewith reproduced. Of course in the former figure there are semiograms represented which somewhat tend to obscure the topogram. The fact that rubber stamps of anatomical outlines are now readily obtainable, places it within the reach of any physician desiring to employ them, and certainly no hospital need be without its own printed forms.

*Semiograms.* There is room for a difference of opinion on the subject of semiograms. Certainly those are best in which the smallest number of arbitrary signs are included. This is a serious criticism of Professor Pensuti's semiograms, which are all arbitrary, and likewise convey absolutely no impression save to those thoroughly initiated.

There cannot be any doubt that the carefully recorded case history is of the greatest importance in the development of the physician's diagnostic ability and is of the greatest aid in conveying his findings to those at a distance. There is scarcely a physician of note who does not use systematic methods of recording his case records. To secure absolute uniformity with those of other members of the profession is an impossibility. This is not, however, difficult in hospitals nor in

one's own private practice. Case-record keeping would probably be more universally practiced if physicians in general recognized that the printed case-record, no matter how simple, is a labor-saving device; and the greater the proportion of matter that can be printed, the greater the proportionate saving of labor.

### SANITARY WARFARE.

When a new method of preventing and combating disease is discovered, it often happens that the public at first bend all their energies to the application of that method, only to lapse shortly into old-time habits and indifference; so that a constant reminding is necessary to keep up energetic action against the causes of disease and its means of communication. Perhaps, however, the warfare is steadily prosecuted by methods old and new, only less noise is made about it when the methods have become routine.

However this may be, it is pleasing if not helpful to learn that in far-away Malacca the blessings of sanitary science are making their way, thus verifying, as it were, the old semi-philosophic theory that the concentric waves of energy started by dropping a pebble on the surface of still water stop not until they have encircled the globe.

Klang is a town of about 3,500 inhabitants in the Federated Malay States under British control, and has a port (Port Swettenham) of about 500 residents, mostly English officials. Both places were recently the home of pestilential malaria. In the year 1901, officials to the number of 236 were

stricken with the disease, and the natives suffered likewise in proportionate numbers. Since that year sanitary measures, outlined by the Liverpool and the London Schools of Tropical Medicine, have been carried out in Klang and its port and in their immediate vicinity. Swamps have been drained and filled-in with earth, jungles and undergrowth cleared away, and incoming springs diverted into a contour drain. As a result of these sanitary measures and simultaneously with their execution, the number of cases of malaria has steadily diminished, so that in the

malarial season of 1904, no official was attacked by the disease after July, that is, during the part of the year when malaria is usually most severe in that quarter of the globe. Among the native population, also, malaria scarcely made its appearance.

These facts are generally reassuring to all interested in the progress and possibilities of sanitary science and are specially noteworthy as showing that mosquitoes of the genus *anopheles* are not rapidly migratory and are therefore practically conquerable.

A. D.

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## PROGRESS OF MEDICINE.

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### Neurology and Alienism.

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*Conducted by B. Oettinger, M. D., Denver, Colorado.*

#### EPILEPSY.

Dr. A. A. Eshner (*Medicine*, Vol. 2, No. 3) defines epilepsy as a paroxysmal neurosis characterized by attacks attended with derangement of conscience or motor co-ordination with or without convulsions. The underlying factors are at present unknown.

Four types of epilepsy may be recognized; viz.: major, minor, focal, and psychic, and these may be variously combined in the same subject. Only the last two need be defined. In focal epilepsy, the motor phenomena usually are confined to the same parts and exhibit the same order of invasion, although they may become more extensive and even general. Consciousness

may be preserved throughout the attack, and the affected muscles may be paretic subsequently. In psychic epilepsy the mental activities are suspended or modified for a varying length of time; motility, if at all affected, being impaired for only a brief time.

Each case of epilepsy must be studied and treated individually. A careful and systematic record of attacks should be kept, noting the character as well as the frequency. In the beginning, it may be advisable to withhold all treatment in order to establish a basis for comparison with the condition after treatment.

The patient's living must be regular, and moderation in all his activity must

be insisted on. The diet should be simple, nutritious, digestible, and unstimulating. A just sufficient amount of exercise in the open air should be taken. The activities of the lungs, gastro-intestinal tract and the kidneys should be specially promoted.

In the attack itself, constricting clothing should be released, free access of air secured, and the administration of stimulants avoided. Violence of movements, or their long continuance, may justify the induction of narcosis by chloroform and ether. The lateral decubitus is to be preferred in order to prevent the inspiration of vomited matter.

Medical treatment is essentially empirical, palliative, or symptomatic. When an aura is present, inhalation of amyl nitrite may abort the attack. Apomorphine hypodermically has been used for the same effect. A reduction in the number of attacks is best accomplished by means of bromine preparations. An associated omission of sodium chloride from the dietary is favorably reported. The joint administration of bromids with digitalis is of special service in minor epilepsy. Antipyrin is a useful adjuvant to the bro-

mids. Boras, although not as trustworthy as the bromids, serves as a desirable substitute. The author has found 10-gr. doses t. i. d. for considerable periods of time entirely inoffensive. Psychic effect is potent, as evidenced by the beneficial effect of occasional change in medication or even in the attending physician. Ligation of the vertebral arteries has been recommended with a view of controlling the cerebral circulation, and division or excision of the cervical sympathetic has also been practiced. Any profound impression, such as may be induced by traumatism, accidental or surgical, may exert an apparently favorable influence upon the frequency and severity of the seizures, just as an attack of acute intercurrent disease at times does.

(A patient recently attended, experienced no epileptic seizure for several months following excision of the cervical sympathetic on the left side. Later, and up to the present time, eighteen months after the operation, attacks have been more violent and follow each other with far greater frequency than at any time during the twenty years of patient's illness.—Ed.)

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## Ophthalmology and Otology.

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*Conducted by Melville Black, M. D., Denver, Colo.*

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**LATENT HYPERMETROPIA, THE CAUSE OF THE DIFFICULTIES ATTENDING REFRACTION WORK.**

This is the title of a paper by Dr. Lewis S. Dixon, in the April issue of

*The Annals of Ophthalmology*. This paper has received some editorial notice, and it is not remarkable that it should, as the stand taken by Dr. Dixon is somewhat extreme. He believes



that it is exceptional to find all of the hypermetropia manifest, even though the atropine may have been used for several days. This latent and usually uncorrected hypermetropia, Dixon thinks, is the cause of continued discomfort in many cases, and is responsible for their consulting one oculist after another in hopes of obtaining relief. He reasons that in order for any muscle to do its work with comfort it must have periods of rest; that this applies to the ciliary muscle; and that a small uncorrected error of hypermetropia will render it impossible for this muscle to obtain periods of complete rest.

He thinks the only way, in many cases, of bringing out all the latent hypermetropia is by prescribing a plus lens stronger than the patient actually accepts (fogging). During his examination, and after having found the lenses giving the best vision, a plus .25 is added and the patient asked if momentarily the vision is clear and then slightly fogged. If clear for an instant, it indicates that a quarter dioptrie more hypermetropia exists than at first was manifest. He goes on adding these weak plus lenses until the vision remains permanently fogged, and decides upon the lens that last gave momentary clear vision. If the asthenopia is not relieved by the glasses given, Dixon then prescribes a still stronger lens, believing that there is still a certain amount of hypermetropia uncorrected. He frequently finds that this additional lens is soon accepted with clear vision and with relief of painful symptoms.

His reasoning along certain lines

seems to us not justified. For example: he reports cases given plus lenses who a few years later accepted twice the strength of lens originally prescribed. He assumes that there has been no increase in the hypermetropia, only that he failed at the former examination to find it. This is purely assumption, and proves nothing. There may or may not have been an actual increase in the hypermetropia. Where, however, a patient does accept a definite plus lens and no more under cycloplegia, and later, by fogging, accepts with clear vision an additional plus lens, it proves conclusively that there was at the first examination that amount of undetected hypermetropia.

Dixon must have the faculty of making his patients do things, or he would not be able to get them to wear a lens that gave them cloudy vision. My patients object most seriously to lenses that give them poorer vision than when they came to me. Such lenses not only fog but they cause movement of objects when the eyes move, slight vertigo, and sometimes nausea. It certainly requires a great deal of patience to wear such lenses. Personally, I am inclined to think Dixon exaggerates the difficulties of hypermetropic corrections. My experience leads me to believe that it is the exception, and a very decided exception, when patients are not relieved by correcting all the hypermetropia revealed under cycloplegia. If there is any hypermetropia left behind, and it later gives trouble, it will be manifest at a subsequent examination, and it is time enough then to correct it. The aim is to relieve the patient, not to

cause him more discomfort. If, after our correction, discomfort continues, it would seem time enough to try Dr. Dixon's recommendation of fogging, but to make it a routine practice seems unwarranted.

## SOCIETY REPORTS.

### The Denver Clinical and Pathological Society.

The regular meeting of the Denver Clinical and Pathological Society was held May 12th in the rooms of Doctor Stover, the members entertaining being Drs. Stover, Beggs, Kleiner, Hillkowitz, and Wilder.

The records of the last meeting were read and approved.

*Dr. Powers* exhibited: 1. The greater part of the omentum from a boy 10 years of age, who was operated upon for scrotal hernia. Tubercular involvement of the peritoneum, not suspected before operation owing to the absence of clinical evidence of the same, was found to be present. The patient recovered. 2. A specimen consisting of bone measuring one and one-half by one inch removed from the abdomen and resting on the peritoneum posterior to the linea alba of a girl suffering from umbilical hernia, and supposed to be a portion of the right pelvic bone. Discussed by Dr. Schaffer.

*Dr. Freeman* exhibited a kidney showing polycystic degeneration, the whole kidney being converted into a mass of cysts. The disease was bilateral, the outer kidney being least affected, and the liver was also involved. Discussed by Drs. Beggs, Powers and Freeman.

*Dr. Childs* exhibited skiagraphs of two cases, each showing renal calculus. One had been operated upon. The calculus, which weighed one and one-fourth grains, was found in the exact locality indicated by the X-ray. The calculus was also exhibited.

*Dr. Hill* exhibited photo-micrographs as follows: 1. Round celled lipoma. 2. Scirrhus epithelium. 3. Adeno-fibro-myoma. 4. Genito-urinary epithelium. 5. Vesical cells. 6. Renal tubal cells. 7. Urethral and seminal cells. 8. Vaginal cells. 9. Prostate cells.

*Dr. Stover* exhibited: 1. Skiagram of crushed first lumbar vertebra. 2. Series of illuminated skiagrams of (a) tumor of kidney, (b) stone in kidney, (c) tuberculosis of hip joint in a boy, (d) giant-celled sarcoma of small finger on right hand, (e) osteo-myelitis of tibia. 3. Specimen of "liquid sunshine" fluorescein, which is an aniline product. The dose is 10 drops in solution given about ten minutes before the X-ray exposure is made.

*Dr. Beggs* exhibited specimen from both lungs of a male dying from pyopneumothorax, there being perforation of both lungs, one, the older one, being one-fourth of an inch in diameter

and not resulting in pneumothorax because of adhesions.

*Dr. Powers* reported a case of appendicitis with free fluid in the peritoneal cavity, the intestines being matted together and the cecum and appendix located under the liver, just outside the gall-bladder, both pointing upward. Discussed by Drs. Freeman, McNaught, Rogers, Childs, and Powers.

*Dr. Whitney* reported a case of complete transposition of the viscera in a child.

*Dr. Black* reported on the use of the giant magnet for the removal of a foreign body in the eye, extraction being accomplished in 15 minutes. He called attention to the fact that considerable time might be required by the magnet in which to accomplish its object.

*Dr. Beggs* reported: 1. A case of chicken-pox closely simulating small-pox, eruption being confluent on the face and appearing on the plantar surface of the hands and feet and in the mouth, gums, and the fauces, and umbilication occurring. 2. A case of pulmonary tuberculosis, the lesion being apparently slight at first but suddenly becoming very active and the patient dying within one week.

*Dr. Whitney* reported: 1. A case of pneumonia in a male who was cyanotic in the early stage. Venesection was done, eight ounces of blood being removed, with improvement in the condition. Later, one and one-half ounces of pus were removed from the right side, with healing in a few days. The temperature, however, remained elevated, and a second pocket of pus was

found on the left side. On being evacuated the temperature dropped to the normal point, the cavity healed quickly, and a complete recovery followed. Dr. Whitney thought the case a good illustration of the rapidity of recovery in this class of cases. 2. A case of pneumonia *in extremis* which was bled without benefit, death following. He was of the opinion that venesection was of benefit only in the early stage of the disease.

*Dr. Hall* reported: 1. A case of pleural effusion from which 80 ounces were removed, but it did not present dyspnoea nor any clinical signs of the trouble before aspiration. 2. A case of a woman with enlarged heart secondary to a kidney lesion of long standing, the heart occupying a mid-axillary position. 3. A case of a child with hereditary syphilis, discussing in this connection the presence of well marked atheroma. Discussed by Dr. Beggs.

*Dr. Hickey* discussed the treatment of syphilis by hypodermatic medication. He reported a case of a woman formerly treated with mercury internally improving rapidly under the use of salicylate of mercury hypodermatically. Discussed by Dr. Black, who reported that Dr. Hickey's case had improved so much that the vision of the eye least affected was 5-7 of normal, while the other, which had been very opaque, was 5-40 of normal with small visual field. Further discussion by Drs. Edson, Beggs, and Hall.

*Dr. Waxham* reported: 1. A case of tuberculosis in a woman, a native of Colorado, having a tubercular throat, who was benefited by a residence in

Arizona during the winter months of each year. Later an empyema was discovered and drained, following which general emphysema appeared and death resulted. 2. A case of empyema operated upon, prompt relief following.

*Dr. Edson* discussed the measuring of the blood pressure with Cook's modification of the Riva-Rocci sphygmomanometer. He reported a case of a woman with an extremely high blood pressure of over 350 mm. Venesection was done, 16 ounces of blood being

drawn and the arterial tension being reduced 50 mm. *Dr. Edson* advises the use of a wide armband, and, in fat people, an allowance of 20 mm. less than reading on account of the excess in adipose tissue.

*Dr. Wetherill* reported two cases of vesico-vaginal fistulæ, in one case there being almost complete atresia of the vagina. Both were operated upon with recovery.

The Society then adjourned; members present, 26; visitors, 5.

F. W. KENNEY, M. D., Secretary.

## BOOK REVIEWS.

THE PRACTICAL MEDICINE SERIES OF YEAR BOOKS. Comprising ten volumes of the year's progress in medicine and surgery. Under the general editorial change of Gustavus P. Head, M. D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Vol. 1. *General Medicine*. Edited by Frank Billings, M. S., M. D., Head of the Medical Department and Dean of the Faculty of Rush Medical College, Chicago, and J. H. Salisbury, M. D., Professor of Medicine, Chicago Clinical School. Series 1905. Price of the volume, \$1.00; price of the series of ten volumes, \$5.50, payable in advance. The Year Book Publishers, 40 Dearborn St., Chicago.

This, the first volume of the current series, gives a review of the literature for the past year, it being intended to cover only one-half the field, the rest being reserved for a second volume of some of the most important subjects in medicine. It takes up diseases of the

respiratory organs, diseases of the circulatory organs, diseases of the blood and blood-making organs, general infectious diseases, parasitic diseases, metabolic diseases, diseases of the kidney, and diseases of the ductless glands.

There has been a vast amount of contributions to the literature on these subjects during the past year. This is evidenced by the fact that in diseases of the respiratory organs, for instance, some seventy pages are requisite for a suitable resume of the subject of tuberculosis, and pneumonia requires nearly thirty. These are, of course, the affections at the present day of greatest interest in general medicine. The review of the subject of leukemia and splenic anemia is likewise specially full and specially interesting.

This series of volumes is indeed valuable for the general practitioner, and we know of no other which he will find more valuable to him. It is characterized throughout by evidence of eminently judicious selection and treatment of the subjects.

# The Colorado Medical Journal

AND

## WESTERN MEDICAL AND SURGICAL GAZETTE

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### ORIGINAL COMMUNICATIONS.

#### Light—Its Therapeutic Importance in Tuberculosis as Founded Upon Scientific Researches.

By J. MOUNT BLEYER, M. D., F. R. A., M. S., LL. D., New York City.

Chairman on Light and Electricity. American Congress on Tuberculosis, held at St. Louis, October, 1904.

(Continued from the July Number.)

Chlorine, iodine, and bromine, it is well known, act with considerable energy upon metallic bodies. If, however, any polished metal is exposed to the action of them in a diluted state, the combination is at first exceedingly weak and the films that are formed by either of these three elementary bodies upon any metal undergo considerable change under the influence of the sun. In most cases it appears that these bodies are set free, and the metal left in a state of very fine division or oxidation.

Copper, tin, iron, zinc, lead, pewter, bismuth and several other metals have offered the same results. It is still more remarkable, that films of bromine or iodine on glass are found, under the action of the sun's ray, to act in a similar manner; and in 1841 a scientist of note, whose name I cannot find, pub-

lished in some magazine a full account of the power of iodine in rendering wood capable of receiving photographic images.

In connection with this section of my subject, the following observation and experiments of Dr. Franklin are most important. They are abstracted from his "Researches on the Organic Radicals," published in the *Quarterly Journal of the Chemical Society*.

"Scheele, Seebeck, and others found that nitric acid exposed to sunlight is converted into nitrous acid and oxygen, whilst many metallic oxides lose the whole or part of their oxygen; thus peroxide of lead is resolved into metallic mercury and red oxide, whilst red oxide of mercury, under water, is decomposed into grey oxide and oxygen gas.

"It has been long known, that cer-

tain inorganic bodies, containing iodine, such for instance as the iodides of silver and gold, undergo decomposition when exposed to light, the iodine compounds of the noble metals appearing to be most susceptible to this change.

"From the close relation of hydrogen to these metals, its iodide might be expected to possess the same susceptibility, and this is, in fact, found to be the case; for it is well known, that aqueous hydriodic acid, even when preserved in closely stopped bottles, gradually turns brown on exposure to light, from the separation of free iodine, but the decomposition only becomes continuous when the iodine is removed as fast as it is liberated; it has also been observed, that when hydriodic acid gas is allowed to stand over mercury, its volume becomes reduced to one-half, and the residual gas consists of pure hydrogen; but whether this reaction only occurs under the influence of light, has not been clearly established.

"It has been remarked by almost all chemists who have had occasion to employ iodide of ethyl, that this liquid becomes brown from the separation of iodine when exposed even to diffused daylight; this observation, which I have myself of late also frequently had an opportunity of making, induced me to hope that a decomposition here occurs analogous to that suffered by the iodide of hydrogen under the same influence. I find that the ethyl compound when exposed to direct solar light, rapidly becomes of a dark brown color; but, as is the case with hydriodic acid, this separation of iodine soon

ceases, and when a certain intensity of color has been attained no further action takes place; if, however, the free iodine be removed by agitating the liquid with mercury, the action immediately recommences and proceeds to the same point as before. This behavior of the iodine under light and in contact with mercury indicated the method by which the action could be carried on continuously and the products collected and preserved.

"For this purpose several glass flasks of about 10 ounces capacity were filled with mercury, and inverted in a vessel containing the same metal, a few drops of iodide of ethyl being then introduced into each by means of a pipette; they were exposed to the direct rays of the sun. The surface of the mercury where it was in contact with the liquid, soon became covered with a film of proto-iodide, which, by the further action of the light, was converted into biniodide, whilst bubbles of gas were continually evolved and gradually displaced the mercury from the flask; finally, the whole of the iodide of ethyl disappeared, the gas and biniodide being the sole products of the decomposition. Although simple exposure to the sun's rays caused this action to take place with tolerable rapidity, yet it was greatly accelerated by placing each flask near the focus of an 18-inch parabolic reflector, which was not, however, so highly polished as to cause a very considerable elevation of temperature, the heat never rising to the boiling point of iodide of ethyl ( $71.06^{\circ}$  C.).

"As iodide of ethyl is not in the

least acted upon by mercury at a temperature of  $150^{\circ}$  C., it could scarcely be supposed that the comparatively low degree of heat at which these materials were exposed in the focus of the reflector could play any important part in the decomposition; yet, in order to set the question entirely at rest, an inverted bell-jar, containing iodide of ethyl, confined over mercury, was surrounded by a glass cylinder, and this latter filled, first with water, then with a solution of chloride of copper, and lastly with a solution of bichromate of potash. When the outer cylinder was filled with water, the decomposition proceeded with as much rapidity as without the intervention of that fluid, whilst the temperature of the water was scarcely perceptibly raised during the operation; the same was the case when solution of chloride of copper was employed; but on substituting the solution of bichromate of potash scarcely the slightest action was perceptible, even after several days exposure to bright sunshine.

"Now, since, according to Mr. Hunt, at whose suggestion I employed these liquids, the solution of chloride of copper absorbs nearly all the heating rays and allows about 90 per cent. of the actinic rays to pass, whilst the solution of bichromate of potash intercepts the actinic and gives free passage to the heating rays, it is evident that the decomposition before us is due to the chemical influence of light, and is totally independent of the heating rays of the solar spectrum."

Based upon the above experiments

and our knowledge of the action of light on chemical combination, I undertook a series of important experiments upon the effects of the administration of iodide of potash and soda, and mercury, in their various forms in the treatment of syphilis in its various forms.

Much to my astonishment, in cases where I could not get as rapid an impression upon the disease by the administration of these remedies in the usual way, I found that when the subject was placed under the electric arc-light, or in the pure sunlight, in a nude state these remedies acted almost magically and their impressions were noticeable in one-half the time by the regular method of administration at our disposal. I had a number of mixed cases under treatment (that is, syphilis and tuberculosis of the lungs). I could not make as rapid a progress as I would have liked until I began the method of exposure of the body in a nude state half an hour after the administration of the iodide of soda, and mercury.

This combination of treatment in mixed cases of tuberculosis and syphilis will be found to give results that no other methods to date can possibly duplicate. Further on I have something to say of iron preparations upon which light acts within the body after their administration to which I call your attention most recommendably.

#### INFLUENCE OF THE SOLAR RAYS ON PRECIPITATION.

In 1832 Sir John Herschel communicated the remarkable fact that, when a solution of platinum in nitro-muriatic

acid which has been neutralized by the addition of lime, and has been well cleared by filtration, is mixed with lime water in the dark, no precipitation, or scarcely any, takes place, but when (being thoroughly cleared of any sediment) this mixture is exposed to sunshine it instantly becomes milky, and a white or yellowish-white precipitate speedily falls.

By exposing this mixture behind colored media, Sir John Herschel found that the effect was due to the influence of the most refrangible rays. These mixtures another noted scientist placed in small glass tubes, and so arranged them that they were individually exposed to a separate ray of the spectrum; after an exposure of one hour the following results were obtained, the precipitates having been carefully washed and dried in the tubes in which they were formed.

Most refrangible rays beyond the visible spectrum .....	0.07 gr.
Violet rays .....	1.05 gr.
Indigo rays .....	0.60 gr.
Blue rays .....	0.45 gr.
Green rays .....	0.10 gr.
Yellow and Orange rays .....	0.05 gr.
Red rays .....	0.05 gr.

It is a fact worthy of especial notice, that this precipitation is so dependent upon the amount of sunshine, that precipitates obtained in the same time, being carefully weighed off, will show the relative amount of actinic influence to which they have been exposed.

*Manganate of potash.* A solution of this body, having been made in the dark, was placed in two glass vessels and set aside. After having been kept in darkness for two hours, the solutions remained as clear as at first. One of the vessels with its contents was

then removed into the sunshine, when the solution immediately became cloudy and was very speedily decomposed, the precipitate falling heavily. By experiments with the spectrum I have since found that the precipitation is due almost entirely to the more refrangible rays. I have not been enabled to decide with that degree of accuracy I could desire, in which ray the maximum effect is produced. The precipitates formed in the blue, indigo and violet rays were nearly of the same weight, but it did appear that the precipitation was most speedily produced by the mean blue ray. After all my experimental research, I find that the blue ray is one of the most powerful chemical action rays in the entire spectrum.

If we dissolve the brown precipitate from the chameleon mineral in a solution of cyanide of potassium, we have a clear fluid. Reserve one portion in darkness, and expose another direct to sunlight; the solution preserved in the dark will remain quite clear for many days, whereas that exposed to actinic influence throws down a brown precipitate after a few hours' exposure.

When a few grains of sulphate of the protoxide of iron are dissolved in rain-water and kept in perfect darkness, the solution remains clear for a long time; it becomes, however, eventually cloudy and colored from the formation of some basic salt of iron, even in tubes hermetically sealed. A few minutes' exposure to direct sunlight is sufficient to produce this change, and the salt formed, instead of floating in the fluid and, as, in the former case, rendering



it opaque, falls speedily to the bottom.

Of course I could go into this subject deeper, taking up the question of the solar action on various metallic compounds, non-metallic compounds, thermography in reference to the ex-

amination of all the phenomena connected with the supposed radiation of light in absolute darkness, phosphorescence, the magnetizing power of light, etc., but all this is beyond the pale of this paper.

(TO BE CONTINUED.)

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## SELECTED ARTICLE.

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### The Use of Creasote in the Treatment of Pulmonary Tuberculosis.\*

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By H. LONGSTREET TAYLOR, A. M., M. D., St. Paul, Minn.

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Prof. Osler<sup>1</sup> says: "The profession was long in learning that typhoid fever is not a disease to be treated by medicines." When writing of the treatment of tuberculosis he might have asked the question, how long will it take the profession to learn that tuberculosis is not a disease to be treated by medicines? On some questions the attitude of the profession is theoretically correct, but in practice it is still bound hand and foot to the old idea that every disease must yield to some remedy if properly given. It was disgraceful under the old regime to allow a patient to die unless he had been bled and puked and purged secundem artem. In many instances these heroic measures certainly hastened the end, and probably often prevented the recovery of the patient, which might have taken place if nature had not been crippled by some meddlesome therapeutics.

We have learned the lesson of masterly inactivity in typhoid fever, as indicated by Prof. Osler's remark; it is time we were learning it in the treatment of our cases of pulmonary tuberculosis. The specific action of iodide of potash and mercury in syphilis is accepted to-day, although not understood.

Surely, if there is a specific for pulmonary tuberculosis, it is not to be found among the minerals or vegetables of the earth, for if there is any vegetable or mineral product that had not been extolled by some one as such a specific, then it has been unintentionally overlooked, and it may be encouraged by the assurance that like every dog, its hour will come. I made a list of so-called new remedies that have been recommended for the treatment of this condition during the past decade, with the intention of incorporating them in

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\*President's address delivered at the annual meeting of the Ramsey County Medical Society, January 30, 1905.

this paper, but the list assumed such proportions that this idea had to be abandoned. In spite of all this experimentation, nothing like a specific has as yet been discovered for this exceedingly widespread and common disease. The most popular are to be found among those possessing antiseptic properties, the idea usually being that the tubercle bacilli in the tissues will fall victims to the antiseptic action of the remedy after its absorption. But this theory has not been sustained by the results of treatment; even with the largest doses that the individual can be given without producing symptoms of acute poisoning, experimenters have never been able to reduce the number or vitality of the bacilli in the sputum or lessen their virulence. Anders' claims that the antiseptic treatment is able to cause the arrest of the growth and the development of the bacilli in the tissues, but he brings forward nothing to substantiate his statements. Sollman' declares that such antiseptic action in the tissues is a dream of the future. If this statement of Sollman's is correct, it is indeed surprising that the profession as a body still uses this class of remedies, and especially its most popular exponent, creasote. It is probably safe to say that the diagnosis of pulmonary tuberculosis suggests creasote to the majority of the profession, just as the diagnosis of malarial fever suggests quinine.

Creasote was first used as a remedy for tuberculosis in 1830. On account of its irritating qualities it gradually fell into disuse, although in 1846, in Germany, Dr. Stoeckl published a book

upon this remedy. Its use was revived by Bouchard and Gimpert', who published an account of their results in 1887, but it remained for Sommerbrodt', by his enthusiastic articles, which appeared ten years later, to recall the profession to this long neglected remedy. Sommerbrodt's dictum, "the more creasote that can be taken daily, the better the results," and his advice to increase the dose if it disagreed, that tolerance would soon be established, called forth warnings from others who did not have this experience. Both Fraentzel' and Lublinski' warn against the danger of creasote, in articles during the same year. The popularity of the remedy is shown by the activity of the manufacturing chemists, who have given us Duotal, Benzosal, Geosot, Kreosotal, Tunosal, Phosot, Tuphsot, Phosphotal, Eosot, Sirolin, etc., all combinations of creasote or guaiacol, and all warranted not to injure the most delicate digestive apparatus, which they nevertheless do with remarkable promptness. Notwithstanding this, some seventy-five per cent. of all cases are put on creasote or guaiacol, and the use of these drugs is insisted upon as the one thing necessary to effect a cure. They are given to consumptives in every possible way, by the mouth, by the rectum, subcutaneously, as an inunction, and as an inhalation. These remedies are used because they are supposed to prevent the growth and development of the pathogenic bacilli which are found not in the fluid tissues of the body, as in the case in malarial poisoning, which renders the action of quinine upon the malarial plasmodium possi-

ble, but in the tubercles, cut off from the general circulation, into which they only obtain access occasionally and accidentally, and where they are not necessarily confined, and in which they probably do not multiply. Whatever influence they have, it is positively not exerted upon the bacilli, because no one has observed that the bacilli in the sputum are reduced in vitality, virulence, or quality under the most heroic dosage. Osler says it has no essential influence upon the progress of the disease. Cushny<sup>9</sup> says that animals infected with tuberculosis and treated with creasote die as soon as the controls.

Bernheim<sup>10</sup> says that it is impossible to find two samples of beechwood creasote in the market that are just alike. It is not a product of a stable chemical composition, but a very uncertain one. It is very poisonous on account of its intense corrosive toxicity. It is a caustic. Its smell and taste are both exceedingly objectionable to many patients. Guaiacol, while a definite chemical compound, is not free from other objections. It is the desire of everyone using these preparations not to irritate the stomach, and different methods are used in order to accomplish this very proper design. But are these methods successful? Do the physicians who use this remedy observe the time-honored doctrine of *primum non nocere*? Do the digestive organs of the patients escape injury? Most assuredly they do not. There are, of course, exceptions to every rule. There have been, undoubtedly, a large number of consumptives who, while daily consuming quantities of alcohol, have

recovered. One or more of these can be found in most communities, and so, having them constantly in view, the popular mind has been convinced that in brandy or whisky we possess a sovereign remedy against consumption. But the failures are not in evidence, and hence the fallacy of the popular conclusion which has been reached by the persuasive presence of a few who have recovered, while the ones who acquired a gastric catarrh, and they constitute the great majority of those who have tried the whisky cure, are dead and forgotten. The attitude of the profession toward the class of drugs under discussion is not unlike that of the people in regard to alcohol.

It is generally conceded that the first effort of the practitioner must be to meet the most important indication of treatment, which is to secure for his patient a state of the highest nutritive activity. In order to secure this, the digestive organs must be maintained in a condition of the greatest efficiency. The consumptive's best friend is his stomach, and he cannot afford to run the risk of even hurting the feelings of his friend, while an actual rupture of pleasant relations is always most disastrous and at times even fatal in its consequences.

The advocates of creasote claim that it increases the appetite, and, by the intestinal antisepsis which its use produces, improves general nutrition; which would be important if true. So with the popular idea that whisky is almost a specific in tuberculosis, but with which theory, with very few exceptions, the profession is not in accord. Prof. Nolen<sup>11</sup> makes the state-

ment that creasote, by irritating the stomach and intestinal mucous membranes, increases the appetite and improves the digestion. The bitter tonics are safer agents with which to accomplish this end and are equally efficacious.

The digestive organs of the tuberculous are very easily disturbed, and once unbalanced the return to normal function is most difficult to secure, and here lies the kernel of the whole matter. Creasote, no matter how given, insults the organs of taste and smell. It is an article whose peculiar properties linger long, like those of the onion, and of which constant reminders continue to disgust the sensitive patient hours after the nauseating stuff has been swallowed. These eructations are so annoying to the patient that food soon becomes objectionable, and the quantity consumed is greatly lessened. If the dose is increased, as it too often is even in the face of these danger signals, vomiting and purging may both be produced, greatly to the detriment of the sufferer. When this irritable condition of the digestive tract has been thoroughly established it takes days and sometimes weeks before its functions can be restored. In the meantime the disease has taken advantage of the temporary lull in the efficiency of the nutritive process and spreads rapidly through lung areas formerly apparently normal. The induced catarrhal inflammation of the mucous membranes of the intestines invites an infection by the tubercle bacilli, which are unconsciously swallowed in every case of open tuberculosis of the lungs. If this accident happens and intestinal

tuberculosis is thoroughly established, then we can do nothing but smooth the sufferer's thorny path and secure euthanasia if possible.

This is not a picture drawn from imaginary models, but one that is met so often in the work of every physician who sees many cases of pulmonary tuberculosis that the almost universal use by the profession of a remedy that can be given without doing harm in only a small percentage of cases passes understanding.

Since creasote and its relatives cannot influence the bacilli in the tissues, nor lower the vitality of those escaping into the air passages, even when given in large doses, and at the best acts as an expectorant, then why not give it in small doses if it must be given at all? The doses should be just large enough to secure intestinal antiseptis, and possibly, by its irritation, to increase the appetite and aid digestion, although, as pointed out above, we possess other agents that produce this effect which are free from the objectionable qualities of creasote. Its use may be likened to handling edged tools that cut both ways, for while the dose is increased, in the hopeless design of rendering the patient's tissues a soil in which the bacilli cannot exist, a catarrhal inflammation of the intestines is induced that broadens the field of activity for the enemy and effectually cripples nature's defense against the invasion of the intestinal mucosa. When the enemy is once entrenched here then it only becomes a question of time, how long the doomed fortress can stand the siege. Food may be forced into the stomach, but very

little of it is digested and assimilated. The frequent evacuation of watery stools deprives the blood of its serum and the tissues of their normal resistance, and as one organ after another is infiltrated with tubercles the forlorn picture of a tuberculosis becomes complete.

Since Naegeli<sup>12</sup> has shown that practically every one over thirty years of age shows evidence at death of the presence of a healed or active tuberculosis, and if only one-sixth of mankind succumb to tuberculosis, then the ability of the individual to overcome this disease is very great indeed, and if, by careful study and observation of nature's methods, we learn how the resistance of the individual can be strengthened by increasing resisting power of the tissues in harmony with the efforts of the living organism to overcome the threatened danger of destruction, then we will be much nearer the goal than we can ever get by the present all too common faith in drugs.

The modern hygienic dietetic regimen<sup>13</sup>, without recourse to a single remedy, will accomplish more for a patient than any one or more of the drug treatments now in vogue. If, however, it is to be successful, the methods of the modern sanatorium must be copied, as no mere half-way imitation can be safely substituted. The patient must be convinced, by the enthusiasm and confidence of the physician, of the ultimate success of the plan of treatment, and must be a willing ally, and not a "doubting Thomas", since to carry out for months the very strenuous efforts to regain strength and health which this treatment presup-

poses requires on the part of the patient an implicit confidence in the physician, a determination to succeed, and a courageous spirit, together with a willingness to sacrifice present comfort and ease for future rewards, and, on the part of the physician, the ability to inspire confidence, courage, patience, and determination that unfortunately makes a greater demand upon his mental resources than it would to change the prescriptions every week and convince the patient and his family that everything possible was being done for the sufferer. The physician must be prepared to sustain the spirits of the patient through all sorts and kinds of discouragements and to inspire him with the necessary mental stimulus to keep him from faltering or returning to his former bad habits in a hygienic sense. This ability to obtain and perpetuate a control over his patients, to be able to manage their lives in every detail, is the first requisite of the successful phthisiotherapist, and is an important element in the successful outcome of any given case. The failures of the treatment in suitable cases are principally due to the absence of the requisite mental qualities in either the patient or the physician, or possibly in both.

The specific drug treatment of this disease has been tried throughout the centuries, and should now be condemned as inefficient. Drugs are necessary to meet the emergencies that arise from time to time during its course and to regulate and control the different functions of the body, but here their usefulness ceases. The future is big with promise and the bac-

terio-therapeutics of the disease are being worked out very satisfactorily, although the ideal product has not as yet been discovered. At the present the greatest aid to the sanatorium treatment is to be found in the judicious use in carefully selected cases of tuberculin, "16 16 17". The best preparation is Dr. von Ruck's<sup>18</sup> watery extract of tubercle bacilli. While not a specific, yet it produces at least a partial toxin and bacillary immunity which aids the organism in establishing a bacillary immunity. The cases must be most carefully selected and watched throughout the administration with the utmost care. Trudeau<sup>19</sup> reports that relapses are not as common after a course of tuberculin as they are when it is not used. If von Behring's<sup>20</sup> Jennerization of calves, as he calls his inoculation of the calf with an attenuated culture of tubercle bacilli, proves to be an efficient protection of cattle against the ordinary channels of infection, then we may possibly be able to Jennerize human infants in the future.

Should this idea of von Behring's prove practicable, then another scourge of the human race will have been overcome by the advances of scientific medicine, and the reign of consumption

as Captain of the Men of Death will be ended forever.

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# THE COLORADO MEDICAL JOURNAL

AND WESTERN MEDICAL AND SURGICAL GAZETTE

*A Monthly Journal for the Medical Profession of Colorado and Adjoining States.*

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## EDITORIALS.

### EXAMINATIONS OF THE COLORADO STATE BOARD.

The Colorado State Board of Medical Examiners inaugurates a new principle in its examinations. Hereafter, the candidate for license to practice in this state will be given an oral and clinical examination. Should this not prove satisfactory to the Board no further test of his ability will be made and the license will be denied. Should it, on the other hand, be satisfactory, the candidate will be admitted to written examination. If the percentage attained in this is sufficient, the license

will be issued, otherwise, it will be denied.

The Board no longer permits the publication of its examination questions. In this decision it agrees with some of the other State Boards, among them that of Missouri, and gives as the reason for it, that there is a syndicate in St. Louis which compiles the examination questions of the various State Boards and for one hundred dollars will guarantee that the applicant will pass any State Board. While this is an interesting enterprise, it is very questionable whether the State Board

need fear that the publication of its examination questions will further the interests of this syndicate in any marked degree. Coaching clubs exist in various localities for various purposes, doing a certain amount of definite good. We would suggest that the limitations of any State Examining Board must be very considerable if it cannot prepare examination questions without any great amount of duplication of those used in previous years or by other Boards. On the other hand, it does not make a great deal of difference how the candidate may obtain his medical knowledge provided it be sufficiently extensive and accurate; and if the examination questions of the several boards, by being published, will in any way tend to increase the medical knowledge of those consulting them, that is not to be decried. Of course this is a matter concerning which there is ample room for a difference of opinion, and no criticism can be offered to the Board for the stand it is taking on this subject.

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### THE CONQUEST OF DISEASE.

The report of the Board of Agriculture for Great Britain for the year 1904 shows no case of pleuro-pneumonia (which until recently was very prevalent) among the live stock of the island. The method successfully employed in exterminating the disease required the destruction not only of all animals actually suffering from the disease, but also of all those that had been merely exposed to infection.

During the year 1904 there was no outbreak of rabies in Great Britain and

no death from hydrophobia. The year 1899 was similarly conspicuous. Commenting (London *Daily Times*, June 13, 1905) on this exemption from one of the most frightful of maladies, Sir W. R. Gowers says: "It should never be forgotten that this unique result, the extinction of a disease, which, if rare, was never absent, a disease the most terrible of all to which mankind is liable, is due entirely to Mr. Walter Long when Minister of Agriculture. Only those who have witnessed the agonies of a sufferer from hydrophobia can at all conceive what Mr. Long has prevented or the debt the nation owes him." To this we would add that if one man can accomplish so much, what results might be attained if all should give their proper modicum of heed to the prevention of disease in general!

Aside from the joy we feel in the extinction of this or that particular disease, there is also the comforting thought that the entire host of formidable diseases, like the formidable beasts of the field, must ultimately succumb to the genius and intelligence of man; so that we are allowed to hope the time is almost at hand when any one arriving at the years of discretion with a sound mind in a sound body may be easily able, if he chooses to use that discretion, to fill out with satisfaction the usual term of years allotted by general inheritance to individuals of the human race. All this is fine thinking, indulgence in which might lead one to fear the possible prevalence of extreme and cumbersome longevity; but that fear is at once dispelled when one ventures on the street thronged with death-dealing automobiles, tram-



cars, and the like; detects the customary adulterants in staple foods and drinks; or experiences for one moment the devitalizing conditions that are thrust daily and all day upon myriads of men while plying some, even of ordi-

nary, industrial arts. It cannot but fill the foremost optimist with pessimism to reflect that somehow or other as we become pound wise in one direction, we must become pound foolish in another. A. D.

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## PROGRESS OF MEDICINE.

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### Diseases of the Digestive Tract.

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*Conducted by A. E. Engzelius, M. D., Denver, Colorado.*

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#### TYPHOID FEVER AND APPENDICITIS.

Every practitioner who has seen much of typhoid fever has met with abnormal forms of this disease in which the diagnosis has been extremely difficult. When the uncertainty in diagnosis rests between typhoid fever and appendicitis the difficulties become enhanced because of the necessity of an immediate settlement of the question, as in the case of appendicitis a delay in operative interference might prove fatal to the patient.

The differential diagnosis between atypical forms of these two diseases is well and clearly considered by Cumston in *The American Journal of Medical Science*, May, 1905. The subject is dealt with in three distinct divisions:

1. Atypical forms of typhoid fever and appendicitis.
2. The simultaneous existence of both diseases in the same patient.
3. The appearance of symptoms of

appendicitis during the progress of an attack of typhoid fever.

For the very reason that the forms of the disease under consideration are *atypical*, we are deprived of the guide to a correct diagnosis which localization and character of abdominal pain and tenderness, muscular rigidity, pulse and temperature curve, and hypertrophy of the spleen would otherwise afford us. In these cases Cumston attaches diagnostic importance to the *headache*, *epistaxis*, and *insomnia* of typhoid fever. He further states that "in the majority of cases the abdominal symptoms are those which are foremost in the clinical picture of typhoid, while, on the contrary, the gravity of the general condition often overshadows from the very commencement all other signs found upon local examination, when the case is one of appendicitis."

The aid in diagnosis to be derived

from researches in the laboratory and the use of the microscope, is in these doubtful cases very important and valuable, indeed. The examination of the urine should never be omitted. Although albuminuria may be met in both typhoid and appendicitis, it is apt to be found early in typhoid fever which is insidious in its onset, thus giving the typhoid toxins time to permeate throughout the entire economy before the actual symptoms of the disease make their appearance, whereas appendicitis is a local affection at the time the symptoms appear. To quote:

"In the former the kidney is already under the influence of the toxin, while in the latter the toxin has not as yet had time to be produced". Indicanuria is considered of an absolutely secondary diagnostic value, and the diazo-reaction of Ehrlich is not mentioned.

Examinations of the blood are of importance. Appendicitis is characterized by a great increase in the number of leukocytes. In typhoid fever the count remains normal, or there may even be a hypoleukocytosis.

Of the Widal test Cumston has this to say: "Of all the means of investigation at our disposal the serodiagnosis of Widal is assuredly the one that gives the most certain results other than the clinical symptoms. In all doubtful cases of typhoid fever the research for this sign has a capital importance and in itself alone it will allow one to distinguish a mild typhoid from slight gastric disturbance, a serious typhoid from a meningitis, or all other affections which may simulate it. In many cases where there is any hesitancy in the diagnosis between a ty-

phoid and an abnormal appendicitis the serodiagnosis will settle the question, and where the result is positive this sign has absolute certainty." It should, however, be remembered that agglutination not infrequently appears very late in the disease, and that especially in the serious typhoids it may be entirely wanting or hardly marked.

In a case presenting the ordinary symptoms of a perforating peritonitis "the question—and occasionally a very delicate one to determine—will at once arise whether it is due to a ruptured appendix or a perforated typhoid ulcer." Inasmuch as an immediate operation is indicated in either case the differential diagnosis seems to us, however, to be less urgently demanded.

To illustrate the difficulties which sometimes confront the diagnostician in the class of cases under consideration, the following case, reported by Baget, is mentioned: "The patient was a young woman who was suddenly taken with febrile phenomena, accompanied by a slight indefinitely localized pain in the right iliac fossa. On account of the large size of the right tube, a diagnosis of acute catarrhal salpingitis was made, and this diagnosis appeared all the more justified because, under the influence of quiet and appropriate treatment of this slight local lesion, the temperature fell in two or three days. The patient appeared to be cured when she was suddenly seized by an acute pain at McBurney's point with serious general symptoms and a high temperature. As the diagnosis of appendicitis did not appear to be a matter of doubt, the patient was operated on the next day.

The appendix removed was of normal size, slightly hyperaemic, and contained a clot of blood. In spite of the operation the disease became worse and the patient died a few days afterward. Autopsy showed characteristic ulcerations of typhoid fever. The night before death Vidal's test was positive."

In this connection we also note two cases mentioned by Hall (Appendicitis in trained nurses; *The Journal A. M. A.*, July 1, 1905): "One patient whom I did not see, broke out with measles as she left the table, and the appendix showed much redness and swelling, leading the operators to consider it a case of eruptive disease manifested internally as well as externally." The other case diagnosed as appendicitis and operated upon, developed typhoid fever immediately after operation. "It was one of those in which in the beginning it is impossible to state whether the disease is appendicitis or typhoid."

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#### RADIUM TREATMENT OF CANCER OF THE ESOPHAGUS.

In addition to his nine cases reported in the *Medical Record*, July 30, 1904, Max Einhorn (*Jour. A. M. A.*, July 1, 1905) now reports on seven new cases of esophageal cancer healed with local application of radium. The article gives a description of the apparatus, with illustration, and mode of application.

In each case 0.25 gram of Curie's radium of 20,000 activity was applied to the stricture for one hour daily. In no instance occurred any accidents which might be ascribed to the radium treatment.

In all cases the stricture improved, and all the patients were generally improved by the treatment; five could swallow better; three, in whom stricture had become entirely permeable, were able to take semi-solid and even solid food. The pain was less in five of the patients.

Considering that we have to deal with an affection which until now has not been amenable to treatment, Einhorn looks upon the results obtained as being very promising. He firmly believes, that "in the methodical application of radium we have the means to influence favorably the course and seat of the disease and to retard its progress, even if at present we can not entirely remove it." He ends his article with the prophecy that "this mode of treatment is certainly destined to play an important role in the therapeutics of cancer of the esophagus, and deserves to be tried on a large scale and in a thorough manner. Should my results be confirmed by other clinicians, radium-therapy should take a high rank in the treatment of cancer of the esophagus." The same method of applying radio-therapy may also be used in gastric cancer.

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#### TESTS FOR OCCULT BLEEDING.

"Occult Blood in the Feces and its Clinical Significance" is a subject receiving able consideration by Steele and Butt (*Americ. Jour. Med. Sciences*, July, 1905). As to the diagnostic value of the detection of occult bleeding, these writers remark that "occult bleeding has in general the same clinical significance as visible hemorrhage.

except that its recognition is a much more delicate means of diagnosis because the quantity of blood present is so small. Practically, however, the presence of occult blood is of decided diagnostic value only in the detection of gastric or duodenal ulcer or gastrointestinal cancer, because it occurs with considerable more regularity and frequency in these two affections than in any other condition of the alimentary tract."

As the two reactions oftenest employed in the testing for occult bleeding, the authors mention the *guaiac-turpentine* test of Weber and the *aloin-turpentine* test of Klunge and Schaer. The former was described in the COLORADO MEDICAL JOURNAL, October, 1903.

The aloin test, however, possesses certain advantages and is by all observers recommended as the more reliable and delicate. It was experimentally found that the reaction demonstrated 0.25 gram of blood in 2 grams of feces.

From the above named article we here quote the technique of the test:

"If the stools are not in a semi-liquid condition they must be made so by thoroughly mixing them with distilled water. We usually employed 5 grams of fecal matter in every test. After the material has been thoroughly softened the feces must then be thoroughly mixed with at least its own bulk of ether, and the whole well shaken. This is a very necessary part of the procedure, as it removes the fat, which otherwise produces a thick emul-

sion when the stools are extracted with acetic acid and ether, and renders it almost impossible to obtain a satisfactory ethereal extract. After being thoroughly shaken the mixture of feces and ether should be allowed to stand for fifteen minutes or longer and the supernatant liquor is then poured off. The remaining fecal matter is then mixed with one-third its volume of glacial acetic acid and 10 c.c. of ether. The mixture is again thoroughly shaken and allowed to stand for at least fifteen minutes. The ethereal extract will rise to the top in a clear layer and can be readily poured off. The solution of aloin used is made by dissolving as much aloin as will go on the end of a spatula, in one-third of a test tube of 70 per cent. alcohol; 2 or 3 c.c. of the clear yellow aloin solution are then mixed in the test tube with about the same amount of the ethereal acetic acid extract, 2 or 3 c.c. of ozonized turpentine are then added and the whole is gently shaken.

"If blood is present the reaction may appear in one of several ways: either the whole mixture turns a pink which gradually deepens to a cherry red; second, or the solution of aloin sinks to the bottom and forms a layer beneath the mixture of ether and turpentine, and this lower layer of aloin in positive tests gradually becomes a deep cherry red. Sometimes, if the ether and turpentine are first mixed and then the aloin allowed to flow down the side of the tube, the two sets of fluid will remain separate and a deep red ring will form at their junction. Not more than fifteen minutes should be

allowed for the red color to show itself, for after this the aloin will gradually turn red even if blood is not present.

"It is extremely important to make up the solution of aloin freshly, for when it stands exposed to light it changes into about the color that it attains in the reaction when blood is present.

"When the test is negative the color remains a light yellow, which becomes a red after standing for some length of time. Hydrogen peroxide does not work satisfactorily as a substitute for turpentine in the aloin test. The ozonized oil of turpentine should be pre-

pared by allowing a chemically pure oil of turpentine, such as that prepared by Merck, to stand exposed to the air for at least three weeks."

The authors have by observations been convinced that rare meats taken in sufficient quantities will give a decided reaction for blood in the feces. To quote: "We found that two meals daily of rare beef or chops will invariably give the reaction, and one meal may do it. Well cooked fowl, ham, kidney, and fish never gave a positive reaction. Our results showed that the ordinary winter vegetables were not liable to give a positive test."

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## Tuberculosis.

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*Conducted by Wm. N. Beggs, A. B., M. D., Denver, Colo.*

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### THE PRESENT LIMITATION OF SERUM THERAPY IN THE TREATMENT OF INFECTIOUS DISEASES.

Dr. Henry W. Berg (*Medical Record*, May 6, 1905) divides all pathogenic bacteria into the following three classes:

1. Those which produce in living cultures outside of the body (best shown in fluid media) as a free secretion, a virulent real toxin. The chief members of this group are the diphtheria and tetanus bacilli.

2. Those which secrete little or no free toxin in living cultures, but contain in the living bacterial cells a powerful toxin known as an endotoxin (Buchner-Oppenheim), which is partly

set free only upon the death and disorganization of the bacterial cell. The largest number of pathogenic bacteria belong to this class, good examples being the typhoid bacillus, the pneumococcus, and the streptococci.

3. Those bacteria that produce no free toxins nor have in the bacterial cells endotoxins of any power, but in which the cell plasma contains other poisons in addition to the protein poisons which all bacterial cells in common contain. For our purpose the most important member of this group is the tubercle bacillus. (It might be inquired where does tuberculin belong if we accept this classification unquestionably.—Editor.)

In the first class the pathologic changes are due chiefly to the toxins. In the second the pathologic changes are due to the bacteria themselves, and the endotoxins which are set free on the destruction of the bacterial growth. In the third class the symptoms are due to the bacterial growth, there being no toxins or endotoxins. Of course, all three groups may be complicated with mixed infection.

The author says: Our present clinical and bacteria knowledge, therefore, enable us to lay down certain limitations to the use of antitoxic sera in the treatment of disease produced by the toxic bacteria belonging to the first group. These are:

1. The bacteriological cause of the disease must be positively identified and known.

2. That it must be an organism which produces a free specific toxin and virulent enough to be effective in the immunization of animals.

3. That the experimental injection of the antitoxic serum in sufficient quantities be successful in saving animals from death when injected with or immediately after a fatal dose of the toxin specific to the organism.

4. The bacterial cause and its antitoxin being both specific, the specificity of the action of the antitoxic serum follows as a natural sequence and must be recognized.

5. The combination between toxin and endotoxin being a chemical one, there must be an absolute quantitative relation between the toxin injected and the quantity of antitoxin required to neutralize it.

6. That the antitoxin, when used

for curative purposes, must be injected before the union of the toxin with animal cells has become sufficiently firm to cause pathological and destructive changes in the body cells, tissues, and organs. For the antitoxin only antagonizes and neutralizes free or partly free toxins:

The following limitations are given for the second group:

1. The bacteriological cause of the disease must be positively identified and known.

2. The experimental injection of the bacteriolytic serum in sufficient doses must be successful in saving animals from death when injected with or immediately after a lethal dose of a living corresponding bacterial culture.

3. The bacterial cause of the disease being specific, the specificity of the bacteriolytic serum follows as a natural sequence.

4. Since the antiserum has a destructive or bacteriolytic action upon the pathogenetic bacteria, their action being dependent upon the combined presence of two known substances, namely, the alexin or complement (an unstable substance present in the normal living body and in fresh serum) and the immune body (present in bacteriolytic sera), and since only a small amount of alexin is present in the body, in quantity sufficient to produce only a very limited bacteriolysis, it follows that unless the antibacterial serum be freshly drawn, thus securing the unchanged alexin present in the blood of the immune animal, the antimicrobial action of the bacteriolytic serum is limited by the insufficient amount of alexin present in the body of the patient.

5. The bacteriolytic sera have a quantitative relation to the amount of bacteria which they can destroy. At best, the antisera protect only against a limited amount of bacterial infection. When this increases beyond a certain figure no amount of antiserum will protect or cure the animal. Hence very large doses are necessary, sometimes repeated.

6. While enthusiasts might claim that the bacteriolytic action of the antisera seen in animals which are the subject of experimental infections occurs also in patients suffering from infectious diseases, no curative effect can possibly occur with regard to pathological changes which have already been produced by the bacterial infection. So that the later the antiserum is used, the less the chance of its having any curative effect.

Bacteriolytic sera have been prepared for the serum therapy of a number of the infectious diseases, but such sera have had, hitherto, little or no effect. Attempts have been made to

produce antisera in almost every infectious disease the bacterial cause of which is known. It is safe to generalize and say that none of these sera have been therapeutically effective, an occasional report of one or more apparently hopeless cases cured to the contrary notwithstanding. Those failures are probably due to one or more of the limitations inherent in all bacteriolytic sera, especially to the impossibility of providing sufficient alexin complement, and the difficulty of recognizing most of the infectious diseases until symptoms depending upon gross pathological changes have occurred. The serum therapy is thus applied too late. Finally, even the largest practicable dose of the bacteriolytic serum can destroy only a limited amount of bacteria, entirely insufficient to free the patient from the bacterial infection.

[The limitations of the third group are entirely omitted by the authors, but would probably be very similar to those of the others.—Editor.]

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## Neurology and Alienism.

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*Conducted by B. Oettinger, M. D., Denver, Colorado.*

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### FORMAL TREATMENT OF EPILEPSY.

At a recent meeting of the New York Academy of Medicine, Dr. Chas. L. Dana, speaking upon this subject, stated that while it was admitted that the colony treatment of epilepsy was the best condition to obtain for the epi-

leptic, it could not be employed in every case. Many of these patients had to be medically cared for while at home, and for this class he had gradually evolved a conventional, or, as he termed it, a "formal," treatment affording him best possible results.

Cases best adapted to these measures were those not of long standing and in which serious mental deterioration has not yet taken place. The features of this method were:

1. The course of treatment was to last at least two years. All measures prescribed were to be carried out with fidelity and exactness during that time, no matter how well the patient might seem or how unnecessary the regimen and drugs might appear to become.

2. The use of pure bromide of sodium in combination with glycerophosphate of sodium, so that a patient took on an average sixty grains of sodium bromide and twenty to thirty grains of the sodium glycerophosphate in twenty-four hours. To this some glycerophosphate of iron and a little arsenic might be added.

3. Intermittence of medication for one or two days in each seven. During this time a tumbler of hot water three times a day before meals with an alkaline laxative or a tablet of rhubarb and soda with nux vomica was given.

4. Patient was to exercise violently twenty or thirty minutes at least three times a week. This could be obtained by gymnasium work, bag punching, chopping or sawing wood, etc., and continued until free perspiration took place. Following this exercise a cold bath was to be taken. When patients were not strong, a hot-box sweat three times a week followed by a cold bath could be substituted for physical exertion.

5. The diet is to be regulated but none of a special character instituted; it should be a moderate mixed diet, in-

cluding a small amount of meat.—  
(*Med. Record*, Vol. 67, No. 19.)

#### ALCOHOLIC MEDICATION.

Crothers (*Virginia Medical Semi-Monthly*) says the supposed tonic and stimulant properties of alcohol as a medicine are not sustained by modern research. The use of spirits and quinine as an anti-malarious remedy has been practically abandoned and spirits as an anti-tuberculosis remedy is now considered dangerous. The last is true also of its use in nervous exhaustion. The use of alcohol is to be condemned in fevers and even in the later stages of heart failure. Common use of alcohol in collapse has been practically abandoned because in all probability it lowers vitality and seriously complicates the original condition. The author has seen well marked examples of delirium tremens in the last stages of typhoid fever and pneumonia from the free use of alcohol alone. Persons who overwork and live badly, suffering from acute indigestion, insomnia, and exhaustion, may apparently be helped by spirits, but the relief is only temporary.

Modern teaching shows that the original conditions were toxemias, and that alcohol adds new poisons and covers up the protests of nature by its anesthetic effect.

In the author's experience there appears a close relation between inebriety and tuberculosis. Persons suffering from tuberculosis frequently become inebriates, and inebriates who become abstainers suddenly develop tuberculosis.



Alcohol diminishes the oxygen-carrying power of the blood cells, lessens the power of absorption, of nutrition, and enfeebles the rapidity of elimination.

Critical inquiry dispels the delusion that alcohol can be used without danger in old age, as the same, by its action, increases the impairment of arterial contraction and expansion. The causes of death from alcohol and old age are strikingly similar; thus central hemorrhage, pneumonia, acute inflammation of the kidneys, sudden profound exhaustion followed by heart collapse are common to both classes.

There is a wide unknown field of personal equation which may be described as susceptibility to drug conditions of the organism; presence of toxins, capacity to eliminate, powers of absorption and other unknown forces which determine effects.

Given for specific (cell erosion) anesthetic and narcotic action, the same as its derivations, ether and chloroform, the use of alcohol will be practical, scientific, and rational, otherwise the purpose of its use is doubtful and reflects on the judgment of the physician prescribing it.

The practical conclusion is that the subject of alcohol medication should be studied anew by each physician in his practice. He should seek to determine its effects above all theories, opinions, or prejudices of others.

[The last thought was scientifically developed by Cabot of Boston within the last twelve months with somewhat different conclusions than those entertained by the above author as regards the effects on the blood vessels. Cabot's studies showed that in 283 cases of severest types of alcoholism, excluding all cases over 50 years of age and those having had syphilis, only 6 per cent. showed evidences of arterio-sclerosis of the peripheral vessels or of the heart. If patients between 40 and 50 years were excluded only 1.4 per cent. were diseased. On the other hand, in cases of premature arterio-sclerosis occurring before 45 years, only 13 cases of 45 examined gave any history of alcoholism. That clinical studies, although valuable, are insufficient for the study of arterio-sclerosis was also shown. In a series of cases coming to autopsy and presenting palpable arteries without, however, tortuosity, roughening, or stiffening, careful microscopic examination by Wright showed no evidence of arterio-sclerosis. We may not doubt that alcohol is, generally speaking, a tissue poison. It would seem, however, that other toxins must often at least complicate the alcoholic effect. We must also keep in mind that whereas alcohol may always affect normal tissue unfavorable, it might yet be of service to antagonize toxins present in acute pathological conditions. The entire subject must indeed be studied anew.—Ed.]

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A fracture produced by only slight violence should at once raise the suspicion of a malignant growth. In such a case a uniform dark shadow about the bone as seen in

the fluoroscope is to be interpreted as a neoplasm rather than as callus, for recent callus is not opaque to the x-rays.—*American Journal of Surgery.*

## Physiology, Hygiene and Public Health.

*Conducted by Allison Drake, M. D., Denver, Colo.*

### THE URBAN-POOR PROBLEM.

Mr. Rider Haggard, who was recently sent to America by the English government (though the expenses were paid out of the Rhodes Oxford fund) to investigate the conditions and character of the agricultural and industrial settlements managed by the Salvation Army, has made his report to the government and the report has been published as a "Blue Book." The settlements visited by Mr. Haggard are Fort Romie, Cali., Fort Amity, Colo., and Fort Herrick, O. Mr. Haggard highly commends these enterprises, attributing their few shortcomings to causes that may be easily overcome or wholly avoided in the founding of similar settlements in the future. He advises his government and his countrymen of means to assist the poor of the cities by transferring them to the country, where they may become self-supporting and a vigorous national asset rather than a disease-breeding liability. Mr. Haggard would limit such efforts, however, mostly to those who have migrated to the city from the country and, having become financially embarrassed, are anxious to return to the country but are unable to

transfer themselves and families thither.

As the selection of persons suitable for the formation of successful settlements is a problem requiring an intimate acquaintance with the poorer classes, Mr. Haggard advises his government to make the Salvation Army its agent in the business. His estimate of the expense of transferring to Canada, for example, a family of father, mother and three children is about \$1,000. This the emigrants would be required to refund in small semi-annual installments with interest at six per cent. per annum, including one per cent. for a sinking fund. As speculators might, as usual, become an element of danger to a colony as soon as established, it is proposed to give no one the title to the land until all the money advanced to him has been paid back to the lender.

To insure to the settlers a certain amount of social life, which even a short residence in town makes almost a necessity in the estimation of most people, it is recommended that each settlement consist of at least one hundred families and that the families be selected for each particular colony with a view to their mutual congeniality.

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In the presence of anemia or of faintness, without other apparent cause, inquire concerning the passage of black stools. The

condition may result from hemorrhages due to an ulcer or neoplasm of the small intestine.—American Journal of Surgery.

## Ophthalmology and Otology.

*Conducted by Melville Black, M. D., Denver, Colo.*

### NEW CONQUESTS OF OCULAR THERAPEUTICS.

Dr. R. A. Darier, Paris, France, discusses (*The Ophthalmoscope*, July, 1905) the "Analgesic Action of Radium and the Radio-Active Substances." It was by mere chance that he discovered the analgesic properties of radium. He used it in a case of rheumatic iritis with inflammatory exudations in the pupil and anterior chamber, in hopes of promoting resorption of the exudations. The results were nil in this particular, but most surprising were the effects upon the very acute pain which the patient suffered in the eye and over the whole of one side of the head. Scarcely had an hour passed after the application of a 1-gram packet of radium salt, 240 U., upon the eye and eyelid, when the patient felt a dullness in the painful region and the pain soon disappeared entirely. The pain returned on the third day, and was again relieved by the radium. At about this same time, Darier had a patient suffering from specific choroiditis accompanied by orbital neuralgia in which the application of a packet of radium salt, 240 U., proved equally efficacious in relieving the pain.

Since then he has had occasion to repeat the treatment many times in the cases of patients suffering from pains in the eyes from various causes. With

some the pain disappeared forever after one application; with others the pain returned and was again relieved for a longer or shorter period. He reports relief from pain in cases of injuries to the eye, in violent attacks of headache, in pains in the head as a result of electrical discharges caused by short circuits. Darier once had an attack of ophthalmic migraine with scintillating scotoma, the painful spot being situated between the ear and the orbit. He applied to it the most powerful radium which he had (Br. Ra. 500,000 U.). It relieved all the symptoms in two minutes. He reports in detail the case of a confrere who was suffering from ocular rheumatism. All the usual remedies had failed to give relief. The sclerotic became more infiltrated and the pain more intense and the cornea began to lose its transparency. Finally a tube of 0.10 gr. of radium bromide of 7,000 U. was bound on the external edge of the orbit; the pain was relieved in an hour's time. A packet of radium at 240 U. was left with the patient to apply himself every evening. In the course of a few days the pain had entirely disappeared. While the episcleritis remained it was no longer painful and the disease gradually disappeared. He believes that the milder applications of radium are more beneficial in facial neuralgia than the stronger applications.

## Laryngology and Rhinology.

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*Conducted by E. T. Boyd, M. D., Leadville, Colo.*

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### TOOTH AND NAIL CORRUGATIONS.

The more limited, that is the more specialized our practice, the more important is it for us to bear in mind that given organs are members of a whole and that their integrity is directly dependent upon proper metabolism.

The field of medicine is so vast and our time so busily employed in chasing the elusive dollar, that many things, in themselves insignificant but, considered as a part of the whole, indicative of underlying causes of disease, escape our notice.

G. Lenox Curtis, before the Section of Stomatology of the American Medical Association, at its Fifty-sixth Annual Session, July, 1905, read a paper which was published in *The Journal*, August 5th, entitled "The Etiology of Tooth and Nail Corrugations". He believes that the transverse lines often seen on the teeth and nails are due to "auto-intoxication of which rheumatism is the result, and that they were more plainly developed, and perhaps alone present, in the more painful varieties of the affection, such as lumbago, sciatica, and arthritis, while the longitudinal lines pointed to intestinal indigestion and were especially prominent in colitis, proctitis and hemorrhoids."

The author has proven to his satisfaction that children born of mothers

who suffered from rheumatism during gestation have corrugations upon the teeth, and that children subject to rheumatism during the time of development of the enamel of the permanent teeth have corrugated teeth.

"Opaque spots, when found in either the enamel or nails are also an indication of auto-intoxication."

"The lines on the nails will disappear if the system is freed and kept free from auto-intoxication; for the corrugations which appear at the matrix to-day will disappear at the tip in the course of three or four months. When these markings are absent, it is fairly sure that your patient is not suffering with any serious form of either rheumatism or intestinal indigestion.

"The fineness or coarseness of the marking correspond with the degree of the severity of the attack, and the position of the latitudinal corrugations determines the date of the attack. If they are found near the end of the nail, it is safe to conclude that the attack occurred about four months previously; if they are found at the center of the nail, about two months will cover the time that has passed since the attack appeared; if the lines are near the matrix, the disease has not existed longer than two or three weeks.

"If the longitudinal lines are broken and irregular, they indicate an attack

of intestinal disturbance of unusual severity, such as occurs in colitis, proctitis, and gout. The position of these angular interruptions in the longitudinal lines denotes, as is the case with the corrugated lines, the period of time that has elapsed since the attack occurred. It is interesting to note how

thin and how brittle the nails become in certain stages of rheumatic affections."

(If further investigation along this line proves the inferences and conclusions of Dr. Curtis to be true, inspection of the nails may at least be suggestive in some cases.—Rev.)

E. T. B.

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## BOOK REVIEWS.

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**CHEMICAL AND MICROSCOPIC DIAGNOSIS.** By Francis Carter Wood, M. D., Professor of Clinical Pathology, College of Physicians and Surgeons, Columbia University, New York. With one hundred and eighty-eight illustrations in the text and nine colored plates. Price, cloth, \$5.00; half leather, \$5.50. D. Appleton and Co., publishers, New York and London.

Without diagnosis there is no physician. The better the diagnosis the better the physician, and the more constant his consultation of the works on diagnosis the greater the ability of the physician to make a correct diagnosis. Such is the excuse and the cause of existence for books like the present one.

Diagnostic technic is now necessarily very complicated. The present volume places it within the reach of any physician willing to devote the necessary time and energy to make himself competent and willing to equip himself with such laboratory facilities as should be essential to his practice of medicine. To confine one's knowledge of accurate clinical work to the count-

ing of the pulse and respiration and the taking of the temperature, or the examination of urine for albumen or sugar, as is too frequently the case, is to give the patient cause for complaint of maltreatment even though he may not recognize such fact

In this work the subject of the blood and its relation to clinical medicine is given in special fullness. The description is lucid. The text is splendidly illustrated with half tones and eight plates in colors taken from the microscopical preparations as they appear in clinical examinations. This in itself forms a small atlas of hematology, the value of which cannot be too highly appreciated. No less valuable are the sections devoted to the examination of the stomach contents and digestive excretions, in which special attention is given to practical and reliable tests and in which the parasites are treated of at length. The section of urinalysis is especially practical, and the chemical reactions, or those which are reliable, are presented with marked clearness, whereas those which are simply of historical value are omitted. Numerous

illustrations of casts, and especially of crystals, greatly aid in making clear the microscopical examination of the sediment.

A chapter which is especially timely is that on transudates and exudates, and microphotographic illustrations of the various bacterial findings aid greatly in the elucidation of the subject.

An appendix gives a short description of the reagents and apparatus desirable for such laboratory tests as are requisite to the physician, and will be of aid to him in establishing his laboratory.

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GYNECOLOGY, MEDICAL AND SURGICAL. Outlines for Students and Practitioners. By Henry J. Garrigues, A. M., M. D., Gynecologist to St. Mark's Hospital, New York City, etc., etc. With 343 illustrations. J. B. Lippincott Company, Philadelphia and London. 1905. Price \$3.00.

This book represents an outline of the whole system of gynecology, calculated to be a guide for beginners, but it will also serve the general practitioner who wishes to do his duty by his patients, who should be able to conduct the minor procedures of this branch of practice, and who should know when major operations are necessary. The minor operations are taken up fully and are clearly described; in regard to others the chief features are set forth. A considerable part of the book is devoted to general subjects, examination, treatment, etiology, puberty, and climacteric disorders of menstruation and leucorrhoea.

A special division of the book de-

scribes very admirably the various diseases to which the female genitalia are liable, and treatment for same is fully entered into.

The different methods of repairing the lacerated perinæum, although briefly described, are sufficiently thorough and well illustrated to give the beginner a clear idea as to operative technique.

Malpositions of the uterus and its diseases receive a proper degree of attention, the adnexa, likewise.

As a whole the book is exceedingly well adapted to serve the purpose for which it was written. O. M. S.

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A MANUAL OF NURSING, MEDICAL AND SURGICAL. By Lawrence Humphrey, M. A., M. D., M. R. C. P., Physician and formerly Lecturer to Probationer at Addenbrooke's Hospital, Cambridge. With numerous illustrations. 24th edition. 79 illustrations. Price \$1.00. P. Blakiston's Son and Co., Publishers, 1012 Walnut St., Philadelphia.

This work might carry the title "Essentials in Nursing," because it contains nothing that can be omitted by the nurse in her knowledge, and covers the entire field of nursing. It is really a work for the first year's study and is thoroughly practical. It can be recommended to the physician as well as the nurse, because the physician should be thoroughly familiar with the subject of nursing, but unfortunately he usually finds much lacking in his practical knowledge of it.

The fact that this is the twenty-fourth edition is sufficient evidence that the work is well written and satisfactorily meets a decided demand.

# The Colorado Medical Journal

AND

## WESTERN MEDICAL AND SURGICAL GAZETTE

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No. 9

### ORIGINAL COMMUNICATIONS.

#### Phymol.\*

**A Memoir on the Treatment of Pulmonary Phthisis with a New Drug. Its Composition, its Therapeutic Value, its Indications, its Mode of Employment.**

By DR. GUILLAUME LIVET, Paris, France.

Of the Faculty of Paris; Vice-President for France of the Tuberculosis Congress held in New York in 1902; Honorary Vice-President of the American Congress Against Tuberculosis; Corresponding Member of the Medico-Legal Society (New York); Officier de l'Instruction Publique; Honor Medallist of the Ministry of the Interior; Laureate of the Paris Academy of Medicine (1897-1898); formerly Monitor for Gynecology at the "Clinique d'Accouchement et de Gynecologie" of the Paris Faculty of Medicine; Inspecting Physician for Young Children.

*Mr. President, My Dear Confreres, Gentlemen:*

On the 15th of May, 1902, at New York, I was chosen as the Vice-President for France of the American Tuberculosis Congress; the members of that Congress were kind enough to appoint me, later on, as honorary Vice-President. I fully realize that this high favor is to be ascribed much less to my feeble merits than to your keen and sincere desire to become acquainted with the studies on tuberculosis made in Europe, and that through one of your French confreres who has devoted all his time and all his endeavor

ors to the study of the various questions which are so ably discussed in your learned assemblies.

It would be idle to return today to the treatment of pulmonary phthisis by the hypodermic injections of my serum, Bacillosine. I spoke to you at great length concerning it at the New York Congress. Many of you have been employing it for the past three years with good success and are aware that it is prepared with a pure culture of Koch's bacillus by means of my own process of attenuation. You are now familiar with the excellent results which in my own hands

\*Read before the American Anti-Tuberculosis League, at Atlanta, Ga., April 19, 1905.

have been constant. I need not insist further. I wish in the present memoir to call your kind attention more especially to a new preparation devised by our Paris confrere, Dr. Chabaud, and named by him "Phymol."

Dr. Chabaud, after long and conclusive personal experimentation, asked me at first to control his results, then to verify them all over again, and lastly, to try Phymol on my own patients in my anti-tubercular clinic.

I willingly acquiesced, notwithstanding the legitimate confidence I have in my own serum, fully convinced as I was, that we can never be too well armed against the dread scourge, and that our chances of at last extirpating it will increase with the number of agencies we shall have against it at our disposal. Well remembering also the words which your honorable President, Dr. George Brown, wrote to me: "As you know, there is room for all in this great work."

Phymol, gentlemen, is composed of a selection of plants, exclusively. This alone is a novelty of some interest in these days of alkaloids and of the triumph of the chemical over the more natural methods of therapeutics. Then again (a point of some satisfaction to you, I trust), these plants are treated after the methods of your own pharmacopœia and exhibited in the form, familiar to you, of the fluid extracts, which we know in France as the "American" fluid extracts.

Dr. Chabaud's idea was to blend together in one harmonious whole all the plants known to have a well established reputation in the treatment of tuberculosis, and those also noto-

riously possessed of some special activity corresponding to one of the desiderata of rational phthisiotherapy. We shall soon see to what extent he has been successful.

Allow me, before proceeding further, to make a remark of great general importance in therapeutics, one, too, which is not as a rule sufficiently insisted upon, so far as I am aware. I refer to the fact that the action of different plants possessed of more or less similar activities is greatly enhanced by their association together, or, in other words, their individual separate action is inferior to their associated action.

Going on these lines, Dr. Chabaud composed his Phymol with the following plants: *Artemisia absinthium*, *Croton eleutheria*, *Gentiana lutea*, *Salvia officinalis*, *Teucrium chamaedrys*, *Ruta graveolens*—a perfectly rational combination of bitter, tonic, stimulant and aperient elements. It would be idle to insist on properties well known to all of you. Allow me just to call your attention to the fact that *Salvia officinalis* is possessed of the peculiar and generally unknown property of combating perspiration. It is most useful against the night sweats of phthisical patients.

All those plants aim, very evidently, at stimulating the appetite and tonifying the stomach, which is so generally in tubercular cases affected with complete and well-nigh insurmountable anorexia. A few more are associated with them whose action is distinctly antitubercular, although little known to be so hitherto. *Sarcosyphalus exultans*, *Piscidia erythrina*,



*Grindelia robusta*, *Aspidosperma Quebraco*, *Theobroma kalagua*.

You see, gentlemen, that the first group of those plants is derived exclusively from our rich French flora. The majority of those of the second group come from South America, from Chili, the *Sarcocephalus exultans* from Senegal, and the *Piscidia erythrina* from India.

A few words now as regards their properties. The *Sarcocephalus exultans* is more commonly known as the doundake. It possesses astringent, tonic and febrifuge virtues and is used as a substitute for cinchona bark. It is prescribed in France in cases of anorexia, gastro-intestinal disturbances, anæmia, the various cachexias, scrofula, palsy, and sundry nervous affections.

*Piscidia erythrina* owes its name to the brilliant scarlet color of its flowers (erythros—red) and to its stupefying action on fishes (piscidia—piscis). It has been employed by Dr. Hutchison, of Glasgow, with very great success in phthisis, bronchitis, catarrh, insomnia and whooping cough. It is largely used in Paris by several practitioners, more especially by Dr. Huchard, a member of our Academy of Medicine, as a remarkable sedative.

*Grindelia robusta* grows in the south of your own country, and you know quite as well as myself its absolute efficacy against the obstinate fits of coughing of tuberculosis, asthma, and emphysema. It acts both against the intensity and the frequency of the fits.

You all know the Chilian quebracho with its high percentage of tannin, its febrifuge and tonic properties. One

of our best known botanists, M. Bocquillon-Himousin, writes: "It is employed in diseases of the respiratory tract; it acts as an antipyretic in dyspnoea; is useful in cases of emphysema, of bronchitis, of pleurisy; it opposes the process of inflammation and the formation of pus." A precious remedial agent, evidently.

Kalagua, or *Aspidosperma kalagua*, is the antidote above all others, of pulmonary phthisis. It was first brought from Columbia by M. Patin, Belgian consul. It was first studied in New York by Dr. Strubbert, first generally used in Belgium, and has more recently gained a foothold in our own pharmacopœia.

Professor Yseux, of Brussels, writes: "The exhibition of kalagua, in every case, very rapidly promoted the appetite, which soon becomes imperious. The digestion becomes complete, normal; sleep perfect. After a time the weight of the patient is found to have increased, thus proving that the nutritive metabolism has taken a new departure. On closer observation it will be found that he can develop greater muscular power and energy. It is thus seen that the patient is not only better fed, but that he has also recuperated an increased vitality and hardiness. Kalagua constitutes the most potent therapeutic agent we have at our disposal in all cases of organic debility."

One other point of primary importance which Professor Yseux fails to mention is this, that kalagua is a powerful antidote for Koch's bacillus, which is rapidly destroyed in the lungs, its toxins being at the same time neutralized. The following ex-

periments are demonstrative on these points: tubercular sputum is allowed to macerate for twenty-four hours in a 1 p. c. solution of kalagua and is then injected under the skin of guinea-pigs. All the animals so treated survived. Later on, when sacrificed, no trace of any tubercular lesion is found in their different organs, no sign of any infection. I have myself repeated this experiment many a time; it always gave the same conclusive result.

What I have then told you, gentlemen, concerning the constituent elements of Phymol and of the special properties of each one of them, will, I hope, appear sufficiently conclusive as regards the therapeutic value of the compound drug itself.

Phymol answers the three main desiderata of rational phthisiotherapy; viz., build up the constitution again, destroy Koch's bacillus, and neutralize its toxins.

With the ordinary dose of one tablespoonful before the two principal meals, daily, the following results are observed: the cough is rapidly soothed; the expectoration diminishes and soon disappears entirely; so also the night sweats and the diarrhea, even the most obstinate; the temperature goes down and rapidly becomes normal; the appetite is stimulated and grows ravenous; digestion is improved, as is also the general nutrition of the whole system, as shown by the increase of the weight and of the strength of the patient. Locally, all the stethoscopic phenomena gradually disappear. Phymol is thus seen to constitute the true specific treatment of pulmonary phthisis.

These are not light assertions, gentlemen. They are real facts, daily confirmed by new cases. You may read those I report at the end of the present memoir: they are only a very few of those I might have instanced and which I have seen during the last year. I have thus reached a percentage of 85 to 90 of cures or of permanent improvement ascribable solely to the action of Phymol. Even in those desperate cases, seen too late, in which a cure cannot possibly be effected, Phymol still comes in useful to give the patient a few last days of rest, to soothe and quiet his end.

But even in such cases, gentlemen, however disheartening they may appear—witness some of my observations—we must never give in. Believe me, even then must we continue the desperate struggle. Phymol has occasionally achieved perfect resurrections, filling us with as much surprise as joy. You will certainly come upon such cases yourselves.

I must not take much more of your time, but I trust I have said enough to show you what a wonderful weapon Phymol can be in our hands. Just allow me to add a few brief indications concerning my ordinary routine work, with the hope that you may, perchance, gather from it a few useful hints for the benefit of your own patients.

As you are well aware, one of the first effects of pulmonary phthisis on the system is to lead to a considerable and abnormal loss of phosphorus. There is, in fact, a condition of phosphaturia, as evidenced by the analysis of the urine.

These losses are best compensated

in my experience, by the appropriate use of the cereals. Like so many of nature's bounteous fruits, they generously yield to us, not only their assimilable phosphorus, but also their high proportion of nitrogen, of albumen, of fats. They constitute, as you know full well, foodstuffs of a quality superior to milk, eggs or meat. This superior grade of nutritive and reparative efficiency of the cereals has been well pointed out in France by my friend Dr. Springer and by Professor Gilbert of the Paris Faculty. They have been, for this particular object, specially prepared for us in the shape of a farinaceous preparation known as Nutritine Chotard, which is a happy combination of all the best cereals. Its regular use has constantly been followed by a rapid increase of weight of my patients, a generally improved state of nutrition, and a complete compensation of the losses in phosphorus.

I have long since given up the use of creosote. It is both useless and dangerous; so also the cacodylate of soda, a true poison which has failed to keep all the promises made in its name. Whenever it is necessary—and it is so in every case—to mineralize anew the wornout organism of the phthisical patient, a first indication is to supply it with nascent oxygen, the gaseous pabulum of life. I then have recourse to the salts of vanadium. One good form of it is the "Sero-sel Vanadie," which combines the vanadite of sodium with the chloride of sodium and various phosphates. Practically it is employed like ordinary table salt, as a condiment, at meals. It consti-

tutes, as indicated by its name, a true solid serum. This purely alimentary combination, Nutritive Chotard with the Sero-sel Vanadie, suffices to enable us at once to raise the general tone of the nutrition and to arrest the mineral losses of the economy. In certain cases a depurative tonic preparation may be found useful. I then have recourse to Dr. Roge's wine. As for the rest, Phymol suffices.

Such are, my dear confreres, the few facts which I wished to lay before you. I must now thank you for the patient attention with which you have been good enough to listen to me. I shall conclude with an expression of the hope, in the interest of your patients, that you may have been persuaded to give a fair trial to the therapeutic trilogy: Phymol, Nutritive Chotard and Sero-sel Vanadie, which, in my own hand, has yielded such remarkable results. Try them with discretion and, above all, with untiring patience, and soon the public will look upon you as magicians. And I shall be all the more happy to have contributed to the result if we remember that nowadays magicians and savants are no longer consigned to the flames.

#### CLINICAL OBSERVATIONS.

The following, gentlemen, are a few of the clinical facts which I had promised you, and the very interesting observations on which are based the foregoing conclusions.

CASE I. *Pulmonary tuberculosis of the second degree at both apices. Cure.* Adolphe, R., age 25 years, has been coughing for the last eighteen months. Present condition (December

1903) is as follows: Right apex—rough inspiration, expiration hard and prolonged, humid rales; left apex—breathing sounds blurred, numerous moist, crackling sounds. Laryngitis is present.

General condition is very unsatisfactory. There are loss of appetite, insomnia, great weakness, the patient being hardly able to walk at all for the last few months. His weight is 65 kilos.

*Treatment:* Phymol, two tablespoonfuls half an hour before meals. Sero-sel Vanadie, Nutritive Chotard.

January 21, 1904, the appetite is brisk, patient taking several meals a day. He walks several hours without feeling any sense of fatigue. He sleeps well and has no more night sweats. His weight is 66 kilos. February 20, his general condition is perfect, the weight being 69 kilos. Patient is cured and no longer comes for treatment.

*CASE 2. Attack of asthma occurring in an old case of tuberculosis. Cure.* Marcel, J. L., aged 32 years, a workman, first appeared at our clinique on April 11, 1903. Parents are arthritic. There are traces of old coxalgia (or coxo-femoral arthritis), now cured. He has suppurating cervical ganglia and had pleurisy at the age of 16 and a few first signs of pulmonary localization at the age of 20. The first fits of asthma occurred at 14, coming on, on an average, every three weeks and lasting eight days.

*Present condition:* Patient is extremely debilitated, well nigh cachectic. The last fit of asthma occurred

last week. Expectoration is thick, greenish. Percussion signs are nil. Auscultation gives harsh respiratory sounds at the left apex and disseminated bronchitic rales. His weight is 58 kilos.

*Treatment:* Phymol. April 28, the expected crisis of asthma has not come; the appetite is good; there is no more shortness of breath. The weight is 59½ kilos. By May 21, the patient has had no new crisis. There is no cough and no expectoration. The appetite is ravenous. The weight is 66½ kilos. Patient leaves the clinique feeling perfectly well.

*CASE 3.* Charlemagne, G., 32 years of age. Entered November 26, 1903. In 1894 he stayed three months in hospital for an old bronchitis and various accidents of secondary syphilis. He had had frequent attacks of hemoptysis during the last eight years. Coughs every winter.

*Present condition:* In the left apex there are dullness on percussion, exaggerated vibration of voice sounds, harsh souffle on inspiration, moist rales and pectoriloquy. In the right apex there are rough inspiration and a few moist rales.

*Treatment:* Phymol. Weight, 52 kilos. December 29, weight, 53½ kilos; general condition is much improved. January 20, 1904, weight, 55 kilos; the appetite is ravenous and patient has regained strength. Cough, expectoration and night sweats have all disappeared. February 10, weight, 56.6 kilos; there is still a little rough breathing at left apex, but no rales. At the right apex there are no rales;

normal respiratory sounds. February 20, weight, 57 kilos. Patient is completely cured.

**CASE 4. Tuberculosis of both apices, second degree. Cure.** Lucien V., 18 years old, cafe waiter, entered Feb. 20, 1903. One brother died of tuberculosis two years ago; patient has been coughing for about two years. He used to sleep in the same room with his brother. He had a profuse hemoptysis in May, 1902; five more attacks of same accident since, but less abundant. Patient has given up all work for the last six months. Cough is particularly frequent in the morning. He has night sweats. There is fever every afternoon. There is complete loss of appetite, vomiting occasionally, and there is diarrhoea.

**Present condition:** On the right side there is dullness on percussion in the upper third of the lung, with increased vibration of cough and of voice and large-sized humid rales at apex. On the left side there are humid rales at the apex. There are numerous tubercle bacilli in sputum. Patient's weight is 59.1 kilos.

**Treatment:** Phymol. March 20, weight is 61 kilos. There is general improvement, the appetite being excellent. There are no night sweats, no fever, no vomiting, no diarrhoea. Patient daily gaining strength. No more bacilli are to be found in the sputum. April 22, the weight is 63.2 kilos. There are no more rales at the apices. Patient considers himself cured and does not come back for treatment any more.

**CASE 5. Large-sized cavity in left apex. Cure.** Emile, B., 22 years old,

metal worker, entered January 1, 1903. There is no heredity. He has been coughing for a year past and has rapidly lost flesh.

**Present condition:** Vesperal fever and profuse night sweats are present. There is pain in the chest, deep-seated. The sputum is abundant, thick, greenish, fetid. He has prolonged fits of coughing, loss of appetite, diarrhoea, insomnia and great weakness. The general condition is very bad. There is a large-sized cavity in the left apex (amphoric sound, gurgling), surrounded by a zone of fine subcrepitant rales, showing progress of pulmonary breakdown. The weight is 55.8 kilos.

**Treatment:** Phymol. January 21, the weight was 56.1 kilos, the general condition improving. The evening temperature was but slightly above normal; diarrhoea stopped and appetite ravenous. February 12, the weight was 57 kilos and the general condition good. There were no night sweats and the appetite was excellent. February 15, the weight was 56.15 kilos. Patient had an attack of hemoptysis yesterday morning; temperature last evening rose to 39.6 °C. There were profuse sweating and unceasing cough, with fetid expectoration. February 25, the weight is 55.25 kilos. Patient has lost strength, has no appetite, feels quite despondent. Sputum teems with Koch's bacilli and with streptococci. There was profuse diarrhoea. The Phymol was increased to four tablespoonfuls daily. March 2, the weight was 56 kilos. Patient feels better. Diarrhoea has stopped. He feels brighter and more hopeful. Appetite is improving. March 12, the weight

is 56 kilos. There is the same general condition, with a tendency to improvement. March 25, the weight is 57.2 kilos. The appetite is good, sharp, even. Patient feels well; coughs very little. The expectoration is abundant, more watery, better aerated, only that of the morning being still purulent. There is no sweating, no fever. April 15, the weight is 59 kilos. The general condition is excellent. Patient has recovered his strength and good humor. On examination of left apex there are signs of a zone of fibrous cicatrization, but no more any signs of a cavity. There are no bacilli in the sputum. The cure can be considered as complete.

This case well illustrates the fact that we must never give up a patient, however low he may be.

*CASE 6. Tuberculosis of the second degree at both apices.* Phymol. Cure. Celestin, L., 36 years old, day laborer, gives no history of heredity.

*Personal history:* He had measles and smallpox when a child. Since then he has always enjoyed good health. Six years ago he took a cold in the head, which passed on to bronchitis. He coughed a good deal for three years; dry sort of cough, without any expectoration.

*Present condition* (December 23, 1903): There are loss of sleep, restlessness, nightmare, sore places all over the chest. He has no appetite, yet digests well what he does take. Occasionally the cough will bring on some alimentary regurgitation. The dyspnoea is intense. He has had to give up all work. The cough is unceasing; it seems superficial and comes

in fits. The expectoration is abundant, thick, green or yellow, teeming with Koch's bacilli. He complains of some night sweat, but has no fever. He has no strength and has lost flesh considerably. His weight is 60.7 kilos. Subcrepitant rales and soft musical sounds at both apices.

*Treatment:* Phymol. January 14, the weight was 61.3 kilos. He feels better. The sputum is thinner. February 25, the weight is 65 kilos. He feels quite well. Appetite is good. Patient feels much stronger. No more Koch's bacilli are found in sputum. Cured.

*CASE 7. Tuberculosis of the second degree at right apex; of the first degree at left apex.* Phymol. Cure. Anna, Mrs. R., 30 years of age, dressmaker. Her mother died in childbirth. Her father is alive and in good health. Out of six children patient had, three are alive and well, one died of meningitis at the age of 7, one of debility at 3 months, one of congestion of the lungs at 15 days of age.

*Personal history:* Menstruation began at the age of 12. She had an attack of pleurisy ten years ago. On the 3d of November last she vomited some blood, about two litres (three pints). She was taken to the Lariboisies hospital, where the case was diagnosed as one of hemoptysis, with pulmonary congestion and bronchitis.

*Present condition:* December 30, 1904. Sleep is good. There is a painful spot under the left clavicle. There is no appetite. Patient has dyspnoea; is very short of breath. Cough is slight, expectoration scanty,

thick, like grains of rice, of a greenish color. She feels weak and has lost flesh considerably. Her weight is 49 kilos.

There are subcrepitant rales at right apex, front and back; breathing is harsh, inspiration prolonged.

*Treatment:* Phymol. January 14, her weight is 50.3 kilos. She is improving generally. Her appetite is good, digestion improved. Strength is returning. The cough nearly gone. February 20, the weight is 52 kilos. Auscultation signs are normal. Patient is cured and leaves the clinique.

CASE 8. *Cavity on left side; tuberculosis of second degree on right side.* Cure. Gabriel, Mlle. A., is 17 years old. Her father and mother, alive, are both tubercular. She had measles and diphtheria when a child. She has been treated for chronic bronchitis right on from the age of 4½. She had pleurisy when 6 years old. Menstruation began at 13. She had malignant pneumonia two years ago; was three months in bed, and never got quite well since.

*Present condition* (January 5, 1904): Sleep fairly good. There are erratic pains all over the chest. There is no appetite, but her digestion is good. She occasionally throws up food after a fit of coughing. There are intense dyspnœa, great loss of strength and weight. She can do no work and can hardly even walk. She coughs mostly in the morning and in the evening; rarely during the day. The sputum is scanty, grayish, thick, with numerous Koch's bacilli. Menstruation has not appeared for the last eight months.

On the left side there is a cavernous souffle in the sub-clavicular hollow, with gurgling noises. On the right side are rough breathing and humid rales. The right heart is dilated. The weight is 50 kilos.

*Treatment:* Phymol. January 19, the weight is 50 kilos. The general condition is very unsatisfactory. There are fever, diarrhœa and profuse night sweats. January 28, the weight is 50.7 kilos. She feels better. The appetite is brisk. There is no fever, no diarrhœa. She still sweats a little. Cough and expectoration are diminished. February 25, her weight is 51.5 kilos. She feels well. March 25, the weight is 53.6 kilos. She feels quite well. The general aspect is very satisfactory. She feels much stronger and has gone back to work (seamstress). She has no more cough and there are only a few straggling bacilli in the sputum, and only to be found after making several preparations. August 11, patient was seen again. Average weight has been 55 kilos. She appears to be quite well. No more bacilli are in the sputum.

CASE 9. *Laryngitis; loss of voice; tuberculosis in second degree.* Cure. Leon, G., railway laborer, age 28 years, gives no tubercular heredity.

*Personal history:* He had diphtheria when a child; frequent attacks of dermatitis up to the age of 27; bronchitis one year ago, badly treated. For last fortnight had had laryngitis, with complete aphonia.

*Present condition* (April 6, 1904): There are insomnia, thoracic pain, complete loss of appetite, dysphagia, fever every evening, and profuse night

sweats. He has lost flesh considerably and feels very weak. There is constant coughing. The sputum is abundant, thick, greenish. His weight is 50 kilos.

On the right side the vesicular pulmonary mucous is very greatly diminished and there is rough breathing. On the left side there is pulmonary breakdown, with subcrepitant rales, humid crepitus and musical sounds high up in the apex and also at the base.

*Treatment:* Phymol. April 10, the weight is 50 kilos. The general condition is improved, the voice slightly more audible, and the appetite improving. May 2, he weighs 54.1 kilos. General appearance is excellent. The laryngitis is quite cured, the appetite ravenous and the sleep good. There is hardly any cough or expectoration. May 25, the weight is 55.6 kilos. The patient considers himself cured. There are no rales on auscultation.

CASE 10. *Cavity in left apex. Cure.* Louis, R., 32 years old, a blacksmith, entered April 12, 1904. His father is in good health. His mother died of consumption. He took laryngo-trachea bronchitis one year ago and never got quite well since.

*Present condition:* Sleep is good. There is pain along the spinal column. The appetite is indifferent and there is dyspepsia. There is shortness of breath. Cough is persistent, in the morning more particularly. The sputum is thick, yellowish or greenish, muco-purulent, showing numerous Koch's bacilli and streptococci. There are fever and night sweats. He has lost flesh and all strength is gone.

His weight is 63 kilos. He has suppurative otitis and fistula in ano.

Auscultation shows tubar souffle on left side with gurgling noises front and back.

*Treatment:* Phymol. May 10 his weight is 64 kilos. General condition is very good and altogether he is much improved. Has no fever and no more sweating. The otitis is cured and the fistula is much improved and cicatrizing. On the left side is a very soft tubar sound but all gurgling noise is gone. June 10 his weight is 65.4 kilos. Patient leaves clinique quite cured with only a degree of rough breathing on left side.

CASE 11. *Pulmonary phthisis of second degree on both sides.* Candida, A., is 22 years old, a washerwoman. There is no tubercular heredity. She had bronchitis three months ago which was insufficiently treated.

*Present condition* (May 16, 1904): Sleep is bad and troubled with nightmare. There are thoracic pain, loss of appetite, vomiting; constipation; very intense dyspnoea. Cough is continuous, with sputum abundant and yellowish. She has grown very thin. Weight, 46.5 kilos.

On auscultation are found subcrepitant rales, humid, at both apices.

*Treatment:* Phymol. May 21 her weight is 48.5 kilos. There is great general improvement. June 16 the weight is 49 kilos. Appetite is ravenous. Cough and expectoration are diminished. July 2 her weight is 49.6 kilos. She has caught cold; cough is increased. July 26 the weight is 57 kilos. She feels very well. No



cough and no expectoration are present. There is rough breathing at both apices. Patient is cured and ceases to come to consultation.

*CASE 12. Tuberculosis in left apex, second degree. Cure.* Pierre, B., aged 32 years, is a cabinet maker. One brother died of consumption. He himself is of a weak constitution. He had typhoid fever when 6 years old. Has also had heart disease and was pronounced unfit for military service. Eight months ago he had bronchitis and hemoptysis.

*Present condition* (June 6, 1904): There is loss of appetite, diarrhoea, insomnia, dyspnoea. There has been great loss of flesh and he feels very

weak. Vesperal fever and night sweats are present. Subcrepitant rales and musical sounds are disseminated all over the left lung. Cough is obstinate. Sputum is muco-purulent, occasionally blood-stained. His weight is 61 kilos.

*Treatment:* Phymol. July 10 his weight is 63 kilos. There is great general improvement. Appetite is ravenous. No fever, no night sweats are present. Cough and expectoration are greatly diminished. August 11 the weight is 64.8 kilos. He feels well. September 14 the weight is 67 kilos. Patient is cured. There is still a little rough breathing at left apex. General condition is perfect.

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### **Detention Institutions for Ignorant and Vicious Consumptives.\***

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By J. D. C. FOSTER, M. D., New Haven, Conn.

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The movement to arrest the spread of tuberculosis and so far as possible eliminate it cannot be successfully prosecuted until the detention of indigent consumptives is lawful and is systematically enforced. The right to detain a consumptive in a hospital at the discretion of the health officers is not to be confined to those who seek public aid because of their inability to continue work. There are cases that are at work and may continue to be at work for an indefinite period which should be removed to detention institutions and retained there as long as

the authorities may deem it advisable. I am fully aware that if such measures are adopted they will for a time call forth a flood of sentimentalism and test the courage of those who make the effort to enforce them. This will be found especially true in the smaller communities, where all such measures must come more readily into public notice. The interest, however, of the vast majority must in the end prevail, and detention institutions will ultimately be accepted without criticism.

In discussing the detention in institutions of cases of tuberculosis that

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\*Read before the National Association for the Study and Prevention of Tuberculosis, Washington, D. C., May 19, 1905.

have become a public charge, it would be manifestly improper not to draw a distinction between those cases that are ignorant and those that are vicious.

The word ignorant as applied to the first class of consumptives is unfortunately chosen. It seems to imply ignorance of the nature of the disease and of the proper sanitary precautions demanded of them. A discussion in this society as to the proper disposal of ignorant patients seems to be as inappropriate as would be a discussion in a teachers' convention as to what should be done with ignorant children. Ignorance is not excusable, and where it exists the fault does not rest with the patient. In communities of average size there are comparatively few families in which a fair degree of cleanliness cannot be secured by systematic inspection. My daily experience leads me to believe that the efforts to instruct the general public as to the care of infectious material have led to a very remarkable understanding of the question even among the poorest classes. The chief obstacle to the proper care of the tuberculous in such families is poverty. In large cities the extreme crowding of the tenements creates a special condition. Patients who may be fully informed as to the proper care of themselves are unable to comply with even the simplest regulations. We thus find a very large class not ignorant, not vicious, anxious to do all in their power to obey instructions, but simply unable to do so by reason of poverty and the over-crowding that poverty renders unavoidable. These sufferers, whom I would prefer to style the unfortunate, constitute the first group for our consideration.

If work among this class of unfortunates is to be of permanent value, it is essential that all cases of tuberculosis as soon as the character of the disease is determined, should be reported to the health officer. Opposition to enforced reports of tuberculosis is still very strong upon the part of a large number of practicing physicians. This opposition is due largely to an imperfect understanding of the purpose of those who advocate registration. The experience in New York City has clearly demonstrated the advisability of the law, and also shows how quickly professional opposition will yield before a determined effort combined with good judgment. When all known cases of tuberculosis are a matter of record, those cases that are properly classed as unfortunate should be kept under the observation of district inspectors, and the progress of the disease and the moral status of the patient be made a matter of record.

All cases should be allowed to remain at large as long as they are comfortably supported and are careful to obey the rules that are furnished them by the inspectors. Any case that has become helpless and has been thrown upon public charity should be at once removed to a detention institution, and should remain there as long as may be necessary. The sufferer is infinitely better cared for in such an institution, and his family are in a more favorable position to care for their own wants. Little opposition will be offered by the general public to the detention of these pauper cases. These sufferers almost invariably pass into our charitable institutions and remain there during life.

With these cases the important ques-

tion is detention. At present their residence in hospital and poorhouse is purely a matter of choice with the patient. The health authorities have no power to retain even a pauper case if the patient or his family chooses to object. For the safety of the public and the well-being of the families of these pauper cases the right to detain in hospital should be vested in the health authorities of every community and the detention should be invariably enforced. This would entail no hardship upon the patient or his family.

The detention of those who are able and willing to work is a very different matter. The public will have to be educated up to a comprehension of the real danger of such cases before they will submit quietly to their detention. The danger to the public from these working consumptives cannot be doubted. Allow me to relate a typical case to which I was called while I was writing this paper, and which seemed forced upon me as a valuable illustration of my contention that it may be necessary to confine certain cases that are able to work.

The patient was a young woman, who had just entered the family of one of my patients as a cook. In this family there was every reason for extreme caution on account of family history. The cook's severe cough attracted attention, and my opinion was immediately called for. I found a well-marked case of tuberculosis. The patient stated that she had no home and no friends to whom she could go. She stated that she had just come from a family of five for whom she had been doing all the work for the past winter.

During that time she had her cold and had consulted several physicians, who had given her cough mixtures. No effort had been made to confirm the diagnosis and no instruction given so far as I could learn. I had no power to control this case and could only see that she left the employment of my patients. I have no question as to her being immediately employed in some other house, where possibly there will be less care shown and where she may remain for months. If I had had the power to report the case to some authorized official who could have committed her to a detention institution where she would have been given her only chance of recovery, it would have been an act of kindness to her and a measure of incalculable importance to the general public. Such cases can be reported almost without limit, and they are the most dangerous we have to contend with.

Every effort to stay the spread of tuberculosis must be disappointing until the power is given to the proper authorities to detain this class of patients in suitable quarters where they can be treated and at the same time prevented from spreading infection broadcast.

What should be the character of the institutions in which these unfortunates are to be cared for? In the endeavor to determine the most efficient method of caring for them, every effort should be made to avoid complicated and unnecessary measures that are liable to conflict with each other and result in extravagance. When the public are just arriving at a proper comprehension of the necessity for

action and even unavoidable expenditures seem excessive, it becomes the duty of all who have undertaken this work to aim at simplicity and economy of administration. To attempt to multiply institutions is to incur the risk of prejudicing the public against the whole movement. As a fact, there is no necessity for the construction of special detention institutions for the class of cases to which I have alluded. The rational and proper place for their detention is in properly equipped wards in our poorhouses. Every town of sufficient size has some place for the care of the indigent sick. In our larger cities these charitable institutions are developed upon a large scale, and already many are provided with separate wards and tents for the accommodation of tuberculous patients. Here they should be kept and judiciously cared for.

I am well aware that there are very many poorhouses in our country that are scandalous, many in which the medical care is simply a farce, but that is no argument against my proposition. Public sentiment directed by such an organization as we represent here to-day will soon terminate such scandals and enforce upon the officers in charge suitable care for the unfortunate inmates.

These cases, if they are to be subjected to detention, must come as a charge upon the state or upon the community in which they live. The vast number of cases renders the construction of state hospitals for their care practically impossible. State institutions for the care of incipient cases and cases that show reasonable expectation of permanent improvement are

really all that the public can be expected to maintain. Into such institutions hopeful cases could be transferred from the town farms, and from these state institutions hopeless cases could be returned to the care of their own towns. The institution of tuberculosis wards in all communities will be in this way of vast benefit to the state institutions that are being so widely developed at the present time.

From an economic point of view there can be no question as to this plan for the care of indigent consumptives. The actual cost of preparing suitable wards upon our town farms for the reception of such cases would be nominal. The maintenance of the patients is already met by the public.

From a humanitarian point of view the town farm system is by far superior to any other. If the patients have friends who care for them, they are within reach, and they are free from the sense of isolation that must be associated with enforced residence in some remote and overcrowded state institution. Many of these sufferers are simply unfortunates, and if they prove tractable and worthy of confidence may be allowed to go about with a reasonable amount of freedom.

I have endeavored to show that detention institutions for the care of pauper consumptives can be provided at small cost, and that residence in such institutions should be required of such patients whenever it may be deemed advisable by the health authorities. As to the institutions for the care of vicious consumptives, I may say that such institutions also are available with but slight expense. I can see no reason

why the common jail is not all that is required. The term vicious can only be properly applied to such patients as intentionally defy the rules that have been established for their control. In most communities I prefer to believe that the number of such patients is very limited. Where they are found they class themselves willingly with other violators of the law and should receive no more consideration than other criminals. In many of the prisons in this country isolation rooms for tuberculous subjects are already provided. In such rooms the vicious consumptive should be required to work, and also required to keep the room clean as other inmates of jails are required to do. Such treatment would soon become unpopular, and viciously inclined consumptives would find compliance with the law more attractive.

I arrived in one of our large cities some time since somewhere about midnight. I found the great union station

empty. There were not over a dozen people in the whole immense room. Two facts were very impressively enforced upon my attention. First, everywhere I looked I read, "\$100 fine for expectorating upon this floor." Second, under the brilliant electric light the whole floor literally sparkled with expectoration. Either take such notices down and let the public expectorate, or arrest a few offenders and let them appreciate the fact that there is a law that cannot be violated with impunity. A rigorous enforcement of the laws necessary to control the action of consumptives would soon reduce the number of those viciously inclined to a minimum.

The important factor in dealing with tuberculosis among indigent and unfortunate classes is the detention of and enforced treatment of all cases that are so placed as to constitute a danger to the community. Special institutions for the care of such cases are not required.

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## **The Clinical Research Laboratory an Essential Factor in the Effort to Exterminate the White Plague.\***

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By FRANK C. WILSON, M. D., Louisville, Ky.

Professor of Diseases of the Chest, Hospital College of Medicine.

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By the term Clinical Research Laboratory we mean an institution liberally endowed, provided with the most delicate and accurate instrumental aids, and officered by thoroughly educated scientists who have also had extensive

practical training at the bedside. The foundation should be on such a liberal scale as to provide accommodations for all who seek admission, no matter in what stage of the disease. If there were established in various sections of

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\*Read at the American Anti-Tuberculosis League, Atlanta, Ga., April 17, 1905.

our country, a number of such institutions in convenient proximity to large cities, projected upon the most liberal scale, and providing quarters better than most of the cases would get at home, it is hard to realize what a vantage ground it would give us in our great struggle with this dreaded disease which yearly decimates the human race.

As it is now, each case, at home, under little or no sanitary control, and not realizing the danger to the community, every twenty-four hours scatters abroad expectoration teeming with five or six millions of tubercle bacilli, enough to inoculate every man, woman and child in a large city. Could every case be removed to an institution under strict sanitary regulations much of this danger could be eliminated and thousands of cases prevented. The segregation of the cases in such large numbers and in all stages of the disease would give ample opportunity for the scientific study of the disease in all of its phases.

Abundant facilities would also be afforded for testing clinically the merit of the various methods of treatment proposed. Accurate records of the results attained in a large number of cases could thus be gradually accumulated, which would be convincing as to the merit or worthlessness of the various methods tested. The value of such testimony would be greatly enhanced by the co-operation of a number of institutions under one control, and all working together in one great aim to rid the human race of this great curse could do much towards accomplishing this object.

The number of infective foci being greatly lessened, and these under strict sanitary regulations, would minimize the possibility of infection and the public would be protected from deception and charlatanism by the exposure of methods of treatment proven to be of no value. Often a perfectly worthless agent is exploited through the newspapers, bought by thousands of cases, and used for a time, only for them to realize that valuable time has been lost and the case has possibly progressed so far that nothing more can be done for it.

Other methods really meritorious may remain dormant for the want of endorsement or from the antagonism of the profession.

A method of treatment, or a remedy supported by the endorsement of a jury composed of a dozen such institutions, which have each subjected it to a thorough practical test at the bedside in a large number of cases, would be accepted by the profession and brought into general use. On the other hand, methods of treatment proposed and possibly advertised through the daily newspapers or even through the medical journals will attract the attention of physicians or their patients who, like a drowning man snatching at a straw, are anxious to try anything that offers the slightest hope of benefit. The trial may consume valuable time in demonstrating the utter worthlessness of the remedy. This waste of time never to be regained would all have been avoided if the method had previously been passed upon by a thoroughly competent jury of a number of clinical research laboratories.

Only those who have been engaged in investigating lines of treatment realize how their work is hampered by the criticism and opposition of members of the profession who have had no experience, and yet who, for that very reason, throw every obstacle in the way, and possibly deprive the patient of the last chance of relief.

Much good has been and will be accomplished by the institutions endowed by Rockefeller and Carnegie, but these expend their efforts merely in investigating the nature of the disease rather than the merits of the various methods of dealing with it.

If we are ever to succeed in stamping out this hydra-headed monster it must be accomplished by not only aiding the natural resistive powers inherent in every system, but at the same time seeking to destroy the vitality of the rapidly multiplying germs, which, if unchecked, will soon exhaust the most strenuous efforts of the defensive cells in the circulation, and the inevitable doom of the victim will soon close the scene.

Of the many hundreds of methods of combating this dread disease no one observer can hope to test clinically even a small percentage.

In connection with my chest clinic

at the Hospital College of Medicine I have for some time past endeavored to accomplish something in this line by organizing among the senior students clinical research sections, which, selecting cases among the patients presenting themselves, put them upon specified lines of treatment, keeping careful records of the results. These, tabulated, will afford valuable information as to the value of the various remedies used. If the same system were pursued in amply endowed clinical research institutions with unlimited opportunities and facilities, and the observations conducted by skillful investigators, the benefits would be enhanced a hundred fold.

The value of the verdict would be still further enhanced by having a number of such institutions under one control or under a central intelligent supervision, working to accomplish one purpose, the determining the best means of dealing with this common enemy of the human race. The importance of this problem is fully emphasized by the large assemblage of interested investigators from every section of our country, and I trust that the deliberations of this League may redound to the lasting benefit of mankind.

## Light—Its Therapeutic Importance in Tuberculosis as Founded Upon Scientific Researches.

By J. MOUNT BLEYER, M. D., F. R. A., M. S., LL. D., New York City.

Chairman on Light and Electricity. American Congress on Tuberculosis, held at St. Louis, October, 1904.

*(Continued from the August Number.)*

ON THE SOLARIZATION OF THE NUDE BODY BY THE SUN OR ELECTRIC ARC RAYS AND THE PHYSIOLOGICAL AND PHYSICAL INFLUENCE OF THESE RAYS UPON IRON PREPARATIONS AFTER THEIR ADMINISTRATION.

I bring before your notice here one of the physical marvels which light is capable of producing upon the salts of iron, without and within the human body, or upon vegetation.

This physiological discovery has been followed up closely in its various aspects, and as a conclusion, I found that in the administration of iron-salts, in connection with the exposure thereafter of the patient's body to sunlight or the arc-light, an immediate physical and physiological change takes place, making it possible for metabolism to do the rest of the work, with results that are remarkable.

It is a noted fact that photographic chemistry has taught us much in many respects. We are indebted for nearly all the facts connected with the photographic properties of the salts of iron to the labors of Sir John Herschel. In his hands these salts have become valuable photographic agents; and two or three processes which have been devised are among the most interesting within the range of the photographic

art. These various processes can be referred to in the many works on photography where the whole detail can be accurately studied.

I have found that nearly all the salts of iron, under the influence of the sun's rays or under the electric arc-light, for a longer or shorter period, undergo changes. Herschel found this fact:— Papers washed with the ferrosesquicyanuret of potassium exposed to the prismatic spectrum, proved that the decomposition of the salt and deposit of prussian blue is due to the action of the blue and violet, rays below the blue having absolutely no influence. The greatest activity appears to exist about the region of the indigo rays. The rationale of these different processes in photography has been well explained by Herschel. In nearly all cases the action of the sun's rays is a deoxidizing one. In the case of the ferrosesquicyanuret-of-potassium process, where the paper is simply washed with the ferrosesquicyanuret of potassium, it is found highly sensitive to light. Exposed to sunlight for about an hour or less, with an engraving upon it, a beautiful negative photograph is the result. Really what happens physically is that oxygen which combines with hydrogen to form water



is parted with. Prussian blue is deposited, the base being supplied by the destruction of one portion of the ferrocyanic acid, and the acid by the destruction of another. Herschel says: "It seems natural at first sight to refer these curious and complex changes to the instability of the cyanic compounds; and that this opinion is to a certain extent correct is proved by the photographic impressions received on papers which have no iron but that which exists in the ferrocyanic salts themselves. Nevertheless, the following experiments abundantly prove that in several of the changes above described, the *immediate action* of the solar rays is not exerted on these salts, but on the iron contained in the ferruginous solutions, added to them, which it deoxidizes or otherwise alters, thereby presenting it to the ferrocyanic salts in such a form as to precipitate the acids in combination with the peroxide or protoxide of iron, as the case may be.

To make this evident, all that is necessary is simply to *leave out the ferrocyanate* in the preparation of the photographic paper which thus becomes reduced to a simple washing over with the ammonia-citric solution. \* \* \* If a slip of this paper be held for four or five seconds in the sun, or arc-light (the effect of which is quite imperceptible to the eye) and when withdrawn into the shade be washed over with ferrosesquicyanate of potash, a considerable deposit of prussian blue is formed on the sunned part, and none whatever on the rest, so that on washing the whole with water, a pretty strong blue impression is left, demonstrating the reduction of iron in that

portion of the paper to the state of protoxide. The effect in question is not, it should be observed, peculiar to the ammonia-citrate of iron. The ammonia and potassotartrate fully possess, and the perchloride, exactly neutralized, partakes of the same property; but the experiment is far more neatly made and succeeds better with other salts.

If this salt is mixed with perchloride of iron, and washed over paper, whilst it is exposed to the spectrum, the action is continued down to the very end of the thermic spectrum. The formation of the deposit color in this region is accompanied with phenomena of a novel character, referable to the heat developed by the thermic spectrum. Oval brown spots are formed which correspond with the heat spots referred to, and which are evidently due to calorific agency. If ammonia-citrate of iron is used instead of the perchloride, "a copious and richly colored deposit of prussian blue is formed over the whole of the blue, violet and extra spectral rays in that direction, extending downward (with rapid gradation) almost to the yellow in the spectrum". If the action of light is continued, the blue and violet rays in a very strange way destroy their own work. "A *white* oval makes its appearance in the most intense part of the blue, which extends rapidly upwards and downwards; at a certain point of the action of the upper or more refrangible extremity of the white impression exhibits a semicircular termination, beyond which is a distinct and tolerably well defined conjugate image, or insulated circular white spot, whose

center is situated far beyond the extreme visible violet."

As far as my researches have gone, all the persalts of iron are converted into proto-salts by exposure to sunlight and electric arc-light rays, when in combination with organic matter. This has been most fully confirmed, and even in soils all the persalts are changed to proto-salts of iron by the action of growing vegetable and light. I have reasons for believing that all the proto-salts undergo some change. What this change may be it is impossible to say at the present stage of the inquiry, but it will be seen that scarcely any of the metallic salts resist the agency of the sun's light or arc-light rays.

It was these facts that first led me to undertake a number of physiological experiments to test the value of the different salts of iron in conjunction with light administration. In over one hundred tuberculous patients the different iron salts and organic preparations of iron were administered and the patients placed daily in the way of the sun's rays and electric arc-light. Much to my surprise I found that the iron salts (organic iron preparations) were taken up most rapidly, showing marvelous constitutional effects. After the first week the blood counts proved their richness in number to an enormous amount, as compared with previous counts, by the older methods of administration and with other preparations by the old daily method. The haemoglobin increase was very marked.

To-day for the first time since my experimental work, I bring this new

method before your notice, knowing of nothing more powerful that will assist in supplying iron to the system more rapidly than usual, in cases where it is indicated, than this method of administering salts of iron in combination with light. We also know that iron in various forms is being introduced daily into the system by many articles of food; light affects these forms of iron in exactly the same manner as if it were taken in the form of the salts. It is often a good plan, where it is feasible to allow the eating of such foods and vegetables as much as possible. I have taken notice of this fact in a number of cases and must say very satisfactory results have been obtained. Amongst the different forms of iron and its compounds, that I made use of in my investigations, were the Bland's pill in capsule in a fresh state, the ammonia-citrate of iron, carbonate of iron, tct. chloride of iron, and Tropon. This organic compound with iron was selected by me upon its merits; I found it contained vegetable and animal materials in such a state as light would perhaps have a rapid action upon. Much to my own surprise I noticed that this organic food with an iron preparation showed important therapeutic results after a very short time. It also gave the least digestive disturbances, as compared with the others. Hard boiled eggs and iron powder gave me excellent results. All iron preparations exhibited in connection with light rays, left beyond a doubt their physiological workings.

#### HINTS IN CONNECTION WITH THE ADMINISTRATION OF LIGHT RAYS.

White or light colored clothes trans-

mit more light to the body than those of any other color, while black or dark colored clothes absorb the light and degrade it into the coarser principle of ordinary heat. You may ask me the question: Is not an object white from the fact of its reflecting all colors? How then can it transmit them? I answer you as follows: The white reflects a large amount of all the rays, but all those rays which penetrate the interstices of a white garment sufficiently far, pass in as white ones beyond it from the repulsive nature of all the threads, while a black garment from its great affinitive attraction for all the rays greedily absorbs them and prevents their escape on the other side. A sufficient proof of this is the fact that a black or blue curtain will darken a room far more than a white or buff-colored one. But the dark colored curtain of itself will be warmer than the white one. The experiments of Dr. Franklin, in which he put various colored cloths on the snow, are well known. The darker the color of the cloth, the more deeply did the snow melt beneath it under the solar rays. But this does not signify that the black transmitted more heat, but absorbed it, and the garment thus warmed melted the snow because of contact with it. If the cloths had been placed some distance above the snow, the light colors, transmitting the heat more rapidly, would have melted the snow more quickly, just as we see that yellow and orange and red glass transmit more heat than the blue.

The rule is, that if radiant heat "be entirely transmitted, no elevation of temperature is produced in the body

through which it passes," and the very fact that a body grows warm under the heat rays shows that the rays are not transmitted, but absorbed.

It is for the above reasons that all clothing for general wear of tuberculous patients should be made up from the lightest colored materials (preferably all white garments, down to the underclothing). This is highly commendable. The nude state of the entire chest down to the waist exposed daily for several hours, is, of course, still better. I have seen most wonderful results from the exposure of the entire body in a nude state in solaria which were built for several of my patients, and which had all the appointments suitable for the different seasons of the year.

We read in the history of ancient Greece how the inhabitants had small terraces, in the form of solaria built on the tops of their houses, and in which they took their daily sun baths. There is nothing to prevent the owners of general dwellings from providing for their tenants a solarium, built above the body of every house on the roofs and furnishing it with modern appointments, making it useful both in winter and in summer. If provisions are made for the certain days in which the sun's rays are not accessible, the electric arc-lighting may be resorted to. This takes the place of the sun's rays. In this manner a continuous use of light rays may be had at all times.

This method should be employed in every hospital that professes to treat the consumptive according to modern principles.

Children who are weaklings and

those who are pretuberculous should be reared in solaria for several hours daily. The solarium should be so constructed that it would be independent of climatic conditions, from every point of view. I have had a number of practical clinical experiences, within

the last ten years, with solaria and I commend their use in the highest terms.

Gymnastics must also be practiced in the nude state and hydrotherapeutics added to the treatment in general.

(TO BE CONTINUED)

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## SELECTED ARTICLE.

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### Auscultatory Percussion.\*

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By A. L. BENEDICT, A. M., M. D., of Buffalo.

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This method of physical examination, although known for many years, has rarely been systematically taught to medical students, and it is commonly held in slight esteem, perhaps because it requires the same diligent practice as the art of ordinary percussion, so that diagnosticians (already expert in the latter) have not exercised the patience necessary to the acquisition of the newer method. In 1892-93, the writer, having previously made an ineffectual attempt to derive practical benefit from auscultatory percussion, began a series of experiments and clinical observations, which are embodied in a paper presented to the Medical Society of the State of New York and which received the prize of the year 1894-95. Probably most others who have attempted to learn this art will agree with the writer, that almost the only information available at this time was that such a method existed and that it was carried on by

joint use of percussion and a stethoscope. Thus, each investigator has been obliged to do a considerable amount of preliminary drudgery and to rediscover this art for himself.

The term auscultatory percussion is objectionable, since the ordinary percussion in medical examinations is observed mainly by auscultation, and the qualifying adjective simply perpetrates the common blunder of the medical student, who does not realize that he practices auscultation unless he uses an instrument. Stethoscopic percussion would be a better term, for the stethoscope is usually necessary, not only to magnify—or, strictly, to conserve—the acoustic vibrations, but because the area usually examined is so limited that immediate auscultation is impossible. Nevertheless, the stethoscope may be dispensed with in applying this method to the detection of a very large stomach or liver. Visceral transonance is a term of recent sug-

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\*From the Medical Times.

gestion and to which little objection can be raised.

Auscultatory percussion—to retain the common designation—depends upon the simple acoustic law that vibrations are conducted more readily, that is, with less loss of intensity, through a fairly homogeneous medium than when they are transmitted through several juxtaposed bodies of different constitutions. Thus, if acoustic vibrations are conveyed to the ear as directly as possible from the body over which percussion is made, they are much larger than if the percussion and auscultation are performed over different bodies, even of the same kind but separated. The general principle may be applied experimentally, by percussing on tables, on studs in walls, or, as every boy has observed, by listening to the sound of stones knocked together, with the ear first under water and then in the air, the stones being held under water or in the air. While water is a much better conductor of sound than air, this experiment, carefully made, shows a loss of conducting power by a transit from one medium to the other.

For medical purposes, auscultatory percussion can be applied to any organ, new growth, or collection of fluid—liquid or gaseous—which is in contact with the body wall, even in a small area, and which is large enough so that the stethoscope and the plexor are separated by a space of, say, half an inch. Within this radius, the shock of the blow is so great as to be confusing. A pleximeter is usually dispensed with. The older authorities recommend a wooden or ivory uniaural stethoscope. The writer used a

modification of the familiar Camman binaural instrument, with soft rubber tubes united by a hard rubber “Y.” Any binaural instrument that has a small chest piece, and that conducts sounds well, without “singing,” will be found satisfactory. The most generally useful plexor is the middle finger, struck lightly but sharply, against the body wall. The writer has experimented with a dental “plugger” protected at the end by a hard wood or vulcanite disk, but without advantage. The phonendoscope as a substitute for the ordinary stethoscope, has been found inferior. In some cases a little instrument devised by the writer and consisting of a tuning fork set in a vulcanite case, allows more delicate differentiations than the plexor finger. The superiority of this instrument is chiefly in cases in which the stomach and colon are both distended to a nearly equal size and are closely pressed together, or in analogous conditions affecting two cysts. Very likely the lungs and pleural cavities present similar indications for discrimination, but the writer’s practice is limited to the digestive organs, and such complications, presenting problems of great nicety, are seldom encountered.

Theoretically, it makes no difference, in outlining an organ, whether the plexor is held stationary and the stethoscope moved, or vice versa. Practically, most organs are in contact with the body wall for so small a space that the stethoscope must be located here, it being possible to throw the organ into vibration by the plexor, even if it is not immediately in contact with the body wall. To avoid a

transference to another unit of vibration it is usually best to hold the stethoscope in the same spot, throughout the examination of a given organ. In the case of a large organ, however, as the lungs or the dilated stomach, it is necessary to move the stethoscope, since the vibrations are not conducted with sufficient intensity to enable the entire organ to be mapped out from one center.

Generally speaking, it is best to omit altogether the idea of quality or pitch in the use of auscultatory percussion, and to concentrate the attention on the one question of where the plexor passes beyond the organ or other anatomic unit over which the stethoscope is held. Percussing back and forth along radiating lines, enough points are located and marked with the dermatograph to indicate the area in question. After months or years, some idea of quality may be gained, but the usefulness of auscultatory percussion is practically limited to a form of map making. It should not be forgotten that this method is utterly incapable of naming organs, and, to the inexperienced, it cannot even give information as to whether they are filled with gas or are solid. For instance, at necropsies, the writer has several times outlined what appeared to be the stomach, and driven in pins to enable the results to be checked by section. The latter showed that an organ had been correctly located, but it was the colon and not the stomach, the stomach having been pushed up under the ribs. Indeed the writer is very sceptic as to reports of acute gastric dilatation not corroborated by section, for the distended colon or juxtaposed

colon and stomach may apparently support such a diagnosis, as made by ordinary or auscultatory percussion, while the area can be resolved into two by the tuning fork. One may, and frequently does, map out the posterior projection of the stomach believing it to be the spleen; or he may find a very small "stomach" on the left side and a distended "hepatic flexure of the colon" on the right side, and then discover that he is dealing with a case of transposition of viscera. Or, a high and apparently small and tonic stomach may be found when the symptoms point to stagnation, and the true condition will be found to be a transverse colon above a stomach in a state of marked gastroptosis. Again, one may find, by auscultatory percussion, an apparently normal or only slightly enlarged liver, yet easily feel the lower border of that organ a hand's breadth or more below the costal arch, but, on section, ante or post mortem, he may be able to explain the inconsistency by finding the palpable downward projection to consist of cancerous tissue or an abscess, which, of course, would not vibrate as a unit with comparatively normal liver tissue.

In other words, in saying that we are mapping out such and such an organ by auscultatory percussion, we anticipate the corroborative evidence as to its identity, only to be obtained in other ways. We should say only that we have mapped out areas of the same kind of structure, which seem to correspond to certain organs. All of the possible fallacies mentioned have actually been observed by the writer, and most of them repeatedly. In one

ease, after mapping out the upper border of the liver at a necropsy, the writer confessed himself unable to establish the lower border, because he was governed by preconceived notions as to the possibilities of the case and did not rely blindly on the results of the examination. As a matter of fact, the section corroborated the actual finding by auscultatory percussion, namely, a liver so shrunken as to be less than an inch in vertical diameter.

As to the practical objects of examination by this method, one may exclude the lungs and pregnant uterus, as susceptible of localization by percussion and palpation, respectively, with greater ease and certainty. Pulmonary cavities, areas of consolidation or emphysema and liquid or gas in the thorax are well located by auscultatory percussion, but the nature of the area defined must be determined in other ways. In collections of gas, as in cavities and pneumo-thorax, coin percussion is of value in connection with the stethoscope.

The smaller and more deeply situated abdominal viscera are not adapted to this method, unless displaced and enlarged, as in the case of large ovarian cysts, dropsy of the gall-bladder, etc. The spleen may usually be mapped out in the back as an oval area, about one and one-half inches in horizontal diameter, not reaching the spine, and extending for three or four inches vertically below the scapula. The optimum location of the stethoscope must be determined experimentally in each case, as there is always the liability of mapping out the posterior projection of the stomach. The latter

can be distinguished by making an imaginary antero-posterior, normal projection of the anterior gastric area. Location of the normal spleen is always rather difficult, even after considerable experience, but it is more easily accomplished in this way than by other methods. Indeed, most physical examinations by all other methods ignore the spleen entirely till it so enormously enlarges as to be palpable below the stomach and in the flank and to cast a large shadow on the fluoroscope.

The stomach, liver and heart are the organs ordinarily located by auscultatory percussion and with considerable ease and exactness, unless the patient is very fat, or unless emphysema of marked degree obscures the heart area and some exceptional condition masks the other organs. In examining the heart, the stethoscope is placed about so as to listen for the tricuspid valve, wherever cardiac dullness is most marked. The area normally extends to the third rib above, to the nipple line on the left, to a quarter of an inch beyond the right border of the sternum on the right, and sweeping downward and to the left, to meet the apex in the fifth intercostal space.

To locate the liver the stethoscope should be placed in the nipple line above the middle of the region of flatness. The normal area by auscultatory percussion is very uniformly at the costal margin below, and the fourth rib above, in men and children, and at the fifth rib in broad-waisted women. Usually, the left lobe can be located quite accurately. The dome of the organ is too remote from the chest wall

to be detected, but the lower margin can always be located, even if dullness by ordinary percussion is replaced by the tympany of over or underlying intestine. Palpation with curved fingers or the side of the hand, will verify the results of auscultatory percussion, if we remember to allow for the fact that we are palpating upward through the abdominal wall, whose thickness must be subtracted. Ordinary heavy percussion will usually verify the upper border. By the X-rays the upper border is well shown but the lower is apt to be indistinct. The respiratory movement of the liver seems about twice as great by the X-rays as by auscultatory percussion, for the reason that, by the latter method, we naturally think of the ribs as stationary, and the liver does not change its relation to the ribs in front, except slightly.

For determining the gastric area, the stethoscope is placed about two inches "northeast" of the umbilicus, care being taken that it is below the left lobe of the liver. The normal area reaches to the sixth or seventh rib, to a parallel about an inch north of the umbilic equator and scarcely beyond the median line. The area is elliptic, with its major axis at an angle of about forty-five degrees from the horizontal. A tumor of the pylorus is not included in this area, and, if there is a sharp demarcation of gaseous and liquid or semi-solid contents, two areas are, of course, made out.

Owing to the small size of the upper bowel and its irregular distention, it is practically useless to apply this method of diagnosis, and even the distended

colon can seldom be demonstrated as a unit, on account of its length and the rarity of homogeneous distention.

Auscultatory percussion may be used for the demonstration of various tumors, properly located, and it has some qualitative value, as has been mentioned in the case of tumors of the liver and of the pylorus. A tumor composed partly of solid and partly of cystic material, but apparently homogeneous by palpation and by ordinary percussion, may, analogously, be separated into several areas by auscultatory percussion, and, while the method affords no direct information as to the consistence of these areas, it is of some value to know that the mass is not a pathologic unit. In one instance the writer was invited to witness the injection of oxygen into a peritoneal cavity, supposed to be the seat of a tuberculous ascites. There was a protuberant abdomen translucent, and, for some inexplicable reason, the flanks, as well as the infra-umbilical region, were dull on percussion. But, by auscultatory percussion, a circular area was mapped out in the lower part of the abdomen, and the diagnosis of a large, unilocular cyst was made, mathematic probability pointing to parovarian cyst. Only after considerable urging was the surgeon induced to make a small incision instead of an aspiration, when the diagnosis was verified and the operation correspondingly changed. One or two exactly similar cases have also been seen by the writer. Per contra, the method of diagnosis is equally valuable to establish the existence of an ascites when pregnancy or tumor has been suspected.



# THE COLORADO MEDICAL JOURNAL

AND WESTERN MEDICAL AND SURGICAL GAZETTE

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## EDITORIALS.

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### ALTRUISM IN MEDICINE.

Many times during his course the medical student is told, by men with snug incomes, that, if he has entered the medical profession with the hope of becoming wealthy, he is doomed to disappointment. This is undoubtedly true. The humanitarian spirit in the profession is lauded and urged upon the embryonic doctor.

How does this contrast with the words—so often heard and read—to the effect that the dignity of the medical profession is largely gone, due to the development of the commercial spirit in medicine, which has resulted from the close competition due to overcrowding? It is proposed on all sides to limit the output of physicians by closing many of the smaller and less well equipped medical colleges and by encouraging young men to take up other lines of work. This last smacks of selfishness and could not come from men inspired with their great responsibility toward their fellow man and with the consciousness that their knowledge and skill can do much for their less fortunate brother man. It must come from men with a very limited field of vision.

Shall we divert young men from the medical profession and urge the closing of many medical colleges, when over one-half of the human race does not yet know what it is to receive intelligent, sympathetic ministry to its physical necessities? Ask the millions

of China, Korea, India, Africa and South America.

The outlet is ample and the supply does not begin to approach the demand!

And if those in the profession who have received a liberal portion of this world's goods saw fit they could teach the spirit of brotherly love in a far more effective way than by advocating it. The founding of dispensaries and hospitals for the needy half of the human race would show that the teaching from the professor's desk is believed in as was the preaching of the Persoun in Chaucer's Canterbury Tales, who

"—Christ's love, and his apostles twelve  
He taught, and first he followed it himself."

H. P. PACKARD, M. D.

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### Meeting of The Colorado State Medical Society

The membership of the Colorado State Medical Society is looking forward to the coming meeting at Colorado Springs with a great deal of interest. A very strong list of papers will be presented, as is evidenced by the titles and their authors in the accompanying program. The sessions will be held on Tuesday, Wednesday and Thursday, October 3, 4 and 5, in the ball room of the Antlers Hotel; the meeting of the House of Delegates, or business session, preceding the regular scientific sessions, on the evening of the 2nd, at 8 p. m.

There are no invitations issued, for, as the Secretary says, "every member of a constituent society is a part of the main show, and your co-operation will help to make the coming meeting the most interesting one in the history of the society. Dr. Solly, the old war-horse, can be depended on to furnish typical Colorado Springs weather, while Dr. Neeper, chairman of the committee on entertainment, is a gentleman of immense proportions, with a heart big enough to fill his body and gray matter enough to keep everyone busy during the interval between scientific sessions. If you miss this meeting you'll regret it. Come and bring a good paper with you, and don't go home until the sessions are closed."

#### PROGRAM.

##### TUESDAY, OCTOBER 3.

10 a. m.

#### Scientific Session.

##### PAPERS.

- "Ocular Injuries," Melville Black, Denver.
- "Retinal Hemorrhage in Apparently Healthy Eyes," E. W. Stevens, Denver.
- "Silver Salts in Ocular Therapeutics," Geo. F. Libby, Denver.
- "The Chemic Composition of Medicinal Plants," Edward C. Hill, Denver.
- "Mineral Springs," E. J. A. Rogers, Denver.
- "Report of Cases of Morphinism," J. E. Courtney, Denver.
- "Reports of Some Additional Cured Cases of Graves' Disease," Gerald Bertram Webb, Colorado Springs.

2 p. m.

- "Ear Sequelæ of Adenoids; A Report of Cases," R. G. Davenport, Trinidad.
- "Radical Mastoid Operation for the Cure of Chronic Otorrhœa," J. M. Foster, Denver.
- "Submucous Window Resection of Nasal Septum," Wm. C. Bane, Denver.
- "Hay Fever with Demonstrations," Robert Levy, Denver.
- "The New Pharmacopœia," J. Tracy Melvin, Saguache.

"Some Observations on Four Cases of Spotted Fever Occurring in Colorado," J. M. Braden, Carbondale.

"Report of a Case of Round Worms in an Adult," M. D. Gibbs, Van Houton, New Mexico.

"Report of Delegates to A. M. A.," W. A. Jayne, Denver.

8 p. m., Banquet.

##### WEDNESDAY, OCTOBER 4.

10 a. m.

- "Report of Cases of Heart Disease," G. H. Cattermole, Boulder.
- "A Note On a Method of Measuring Venous Blood Pressure in Man," Henry Sewall, Denver.
- "A Case of Purulent Endocarditis," F. P. Gengenbach, Denver.
- "Nervous Dyspepsia," H. T. Pershing, Denver.
- "A Case of Nervous Vomiting Simulating Pyloric Obstruction; Operation; Results," W. T. Little, Canon City.
- "Diseases of the Stomach Requiring Surgical Treatment," I. B. Perkins, Denver.
- "Some Anomalous Cases of Cholelithiasis," R. C. Robe, Pueblo.
- "How the Medical Profession Can Aid in the Perfecting of Hospital Management," Moses Collins, Denver.

2 p. m.

- "The Use of the X-Ray in the Diagnosis of Pulmonary Diseases," S. E. Solly, Colorado Springs.
- "The Albuminuria of Phthisis," J. F. McConnell, Colorado Springs.
- "Tubercular Meningitis in Colorado, with Report of Cases," J. N. Hall and S. D. Hopkins, Denver.
- "Tuberculosis of Joints," Geo. B. Packard, Denver.
- "The Treatment of Pulmonary Tuberculosis," G. R. Pogue, Greeley.
- "Roentgen Therapy of Tubercular Glands," Geo. H. Stover, Denver.
- "Electro-Therapeutics and X-Ray; To What Extent Practicable to the General Practitioner," E. Gard Edwards, La Junta.
- "Dermatoses and Dry Climate," J. M. Blaine, Denver.
- "Typhoid Fever and Its Treatment, with Report of Cases," Sherman Williams, Denver.

8 p. m.

Stereopticon Exhibition of Interesting Skiagraphs by S. E. Solly, G. H. Stover and S. B. Childs, followed by a vaudeville smoker.

## THURSDAY, OCTOBER 5.

10 a. m.

"On the Recurrence of Thrombosis of the Left Iliac Vein After Appendectomy and Other Abdominal Operations," Chas. A. Powers, Denver.

"Compound Fracture of the Vault with Loss of Brain Tissue," Maurice Kahn, Leadville.

"The Avoidable Mortality in Surgery," J. G. Sheldon, Telluride.

"The Pelvic Girdle vs. the Abdominal Supporter in Certain Abdominal Diseases," C. D. Spivak, Denver.

"A Case of Rupture of the Uterus," W. H. Swan, Colorado Springs.

"Floating Bodies in the Knee Joint, with Report of Three Cases," F. Gregory Connell, Salida.

"Bronchiectasis: Report of a Case," O. M. Gilbert, Boulder.

"Asthma: A Report on the Etiology and Treatment of Some Unusual Cases," Jas. R. Arneill, Denver.

2 p. m.

"Deforming Injuries of Ligaments at the Wrist Connecting with Fractures," Geo. W. Miel, Denver.

"Chiloplasty and Cancer of the Mouth," W. W. Grant, Denver.

"Report of the House of Delegates," J. M. Blaine, Secretary, Denver.

"President's Address," Frank Finney, La Junta.

All papers limited to 15 minutes. Discussions limited to 5 minutes.

Members must register and secure badges before reading or discussing papers.

NOTE.—Physicians who expect to attend the banquet on Tuesday evening will please notify Dr. E. R. Neeper. Tickets must be secured before the close of the afternoon session. Price \$2.00.

## OFFICERS AND COMMITTEES OF THE COLORADO STATE MEDICAL SOCIETY.

The next meeting will be held at Colorado Springs, October 3, 4, 5, 1905.

President—Frank Finney, La Junta.

Vice-Presidents—First, F. H. McNaught, Denver; second, L. M. Giffin, Boulder; third, B. F. Cunningham, Cripple Creek.

Secretary—J. M. Blaine, Steele Block, Denver.

Treasurer—W. J. Rothwell, Cooper Building, Denver.

Board of Councillors—H. R. Bull, Grand Junction; S. Kahn, Leadville; terms expire

1905. P. J. McHugh, Fort Collins; E. J. A. Rogers, Denver; terms expire 1906. J. N. Hall, Denver; Hubert Work, Pueblo; terms expire 1907. C. F. Gardiner, Colorado Springs; S. D. Hopkins, Denver; terms expire 1908. J. T. Melvin, Saguache; W. W. Reed, Boulder; terms expire 1909.

Delegates to American Medical Association—W. A. Jayne, Denver; term expires 1905. P. F. Gildea, Colorado Springs; term expires 1906. Alternates—C. K. Fleming, Denver, 1905; H. A. Black, Pueblo, 1906.

## COMMITTEES.

Publication Committee—Edward Jackson, Denver, editor, term expires 1905; S. E. Solly, Colorado Springs, term expires 1906; C. E. Edson, Denver, term expires 1907.

Committee on Scientific Work—G. W. Miel, Denver; S. E. Solly, Colorado Springs; J. M. Blaine, Denver.

Committee on Credentials—J. M. Blaine, Denver; W. T. Little, Canon City; C. K. Fleming, Denver.

Committee on Public Policy and Legislation—C. H. Catherwood, Denver; S. D. Van Meter, Denver; W. H. Swan, Colorado Springs. Ex-officio—Frank Finney, La Junta; J. M. Blaine, Denver.

Committee on Auditing—S. G. Kahn, Leadville; C. A. Powers, Denver; Hubert Work, Pueblo.

Committee on Necrology—W. W. Reed, Boulder; C. D. Spivak, Denver; H. R. Bull, Grand Junction.

Committee on Arrangements—Edward R. Neeper, chairman; C. R. Arnold, D. P. Mayhew, S. E. Solly and W. H. Swan, all of Colorado Springs.

## CONSTITUENT SOCIETIES OF THE COLORADO STATE MEDICAL SOCIETY.

Boulder County Medical Society.  
Denver County Medical Society.  
Delta County Medical Society.  
Eastern Colorado Medical Association.  
El Paso County Medical Society.  
Fremont County Medical Society.  
Garfield County Medical Society.  
Las Animas County Medical Society.  
Larimer County Medical Society.  
Lake County Medical Society.  
Mesa County Medical Society.  
Montrose County Medical Society.  
Northeast Colorado Medical Society.  
Otero County Medical Society.  
Ouray County Medical Society.  
Pueblo County Medical Society.  
San Juan and La Plata County Medical Society.  
San Luis Valley Medical Society.  
San Miguel County Medical Society.  
Teller County Medical Society.  
Weld County Medical Society.

## PROGRESS OF MEDICINE.

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### Neurology and Alienism.

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*Conducted by B. Oettinger, M. D., Denver, Colorado.*

#### DIPSOMANIA.

Howard (*Quarterly Journal of Inebriety*, Vol. xxvii, No. 1) says the term dipsomania is a misnomer and is misleading. There is no feverish desire for fluids, but an uncontrollable desire for alcohol that will give relief from intense periodical mental restlessness and physical weakness. Narcomania, characterizing a morbid, uncontrollable demand for a narcotic that will give relief from periodic mental suffering, would be a more correct term. True it is that those victims of unstable nervous equilibrium drink enormous quantities of liquor, but only because this narcotic can be constantly obtained, supplies the morbid craving with that which produces mental hebetude and physical comfort, and can be consumed with apparent safety by the habitue in unlimited amounts.

Berkley says delirium tremens frequently follows dipsomaniacal attacks. This has not been the author's experience. True, victims of this nervous explosion seem to be physiologically unaffected by the enormous quantities of alcohol consumed. The individual subject to this disorder, who succumbs to uncontrollable demand for alcohol, is of a type distinguished from the chronic inebriate. Socially and mentally he belongs to the intel-

lectual and educated class. He is an individual of pronounced mental gifts, intense nervous activity, often a genius. When contented in his periodic attacks by reason of liquor he does not stagger, is not noisy and quarrelsome, but is genial, wasteful of money, and exhibits the exaggerated ego of incipient paresis. Companions he must and will have, seeking those who will listen to his uncontrollable volubility and will drink with him. He frequently uses up a dozen bar-room "bums," who try to consume all the liquor he will pay for, because the true narcomaniac for liquor can absorb enormous quantities of drink without showing any symptoms of acute poisoning, and does not appear in the public hospital, except for treatment of some secondary effect.

In the dipsomaniac we have a temporarily heightened mental activity, with loss of inhibitory judgment and will; also companionship is an absolute necessity to complete the cycle of content.

In inebriety we have a deadened, sluggish mentality, with physical inertness due to alcoholic poisoning. In the inebriate we often have a chronic or subacute myelitis; in the dipsomaniac, seldom. In the latter, also, alcoholic neuritis and epilepsy are rare. A

large percentage of dipsomaniacs are of a gouty diathesis and the pains after attacks are gouty and are not of direct alcoholic effect.

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BACTERIOLOGY AND PATHOLOGICAL ANATOMY OF CEREBRO-SPINAL MENINGITIS.

Hanan (*Jour. Med. Soc. of N. J.*) says of epidemic cerebro-spinal meningitis that this disease is usually associated with one of three organisms, the pneumococcus, the streptococcus, or the diplococcus intracellularis meningitidis of Weichselbaum. In rarer cases the staphylococcus, typhoid bacillus, and other bacteria may be the cause. In the primary sporadic form of meningitis, the meningococcus seems to be the special organism. It is found in fifty per cent. of the cases of epidemic cerebro-spinal meningitis, in the nose incoryza, in the conjunctiva, and in the purulent discharge of rhinitis and otitis.

The germ is a biscuit-shaped diplococcus resembling the gonococcus, and, like the latter, may be found in protoplasm of the leucocytes. Weichselbaum detected it constantly in sections from the brain and its membranes in cases of cerebro-spinal meningitis. In the exudate, many free cocci may be found. Carl Fraenkel insists that the morphologic peculiarities have so much in common with the pneumococcus that the most refined differential methods should precede a positive diagnosis. It stains rapidly by the ordinary aniline dyes, but, according to Weichselbaum and Mallory and Wright, does not stain by Gram's method. This is a real differential point. The culture

characteristics of growth are not unlike those of the pneumococcus, streptococcus, or gonococcus, although Osler and Wyman say that the blood-serum culture does not resemble the pneumococcus.

It is not positively known by what channels infection by the meningococcus takes place. Weichselbaum supposes that it is through the nasal, auditory, or other passages, but especially through the nose, where he constantly found it.

Malignant cases may exhibit no characteristic changes anatomically, the brain and cord showing only extreme congestion. As a rule, however, the extent and intensity of the objective lesions correspond to the severity of the symptoms. There is intense injection of the pia-arachnoid. The exudate is usually fibrino-purulent. It is exceptional for the disease to be limited to the meninges; it is prone to extend to the underlying parenchyma. The cord is always involved with the brain, the exudate being more abundant on the posterior surface and involving the dorsal and lumbar regions more than the portions above. In acute cases the brain ventricles are usually dilated.

In most chronic cases there is generally thickening of the meninges, and there are scattered, yellowish patches marking the location of previous exudate. The ventricles may be distended. The brain substance is perhaps softer than normal, of a pinkish tinge. Hemorrhagic foci and some showing an encephalitis may be found; exceptionally there are cerebral abscesses. The cranial nerves are usually

involved, especially the optic, auditory, and trigeminus. The spinal nerve roots may also be imbedded in exudate. Microscopically, clumps of polynuclear leucocytes are found about the blood vessels, closely packed in fibrinous material. In the tissues of the brain and cord, infiltration consists chiefly of pus cells which extend down in the perivascular spaces. There is proliferation of neuroglia and degenerative changes in ganglia cells and nerve fibres. Diplococci are abundant in acute cases but may be absent in the chronic forms.

It is plain that lesions of the cerebro-spinal parenchyma greatly modify the clinical picture and that they may have more to do with the severity of the symptoms than the leptomeningitis itself. (As regards the last statement, we may in general expect diseased parenchyma to especially affect body function and involved meninges to be more directly reflected by symptoms of inflammation.—Editor.)

#### DANGERS OF TENDON TRANSPLANTATION.

Oppenheim (*Berlin. klin. Woch.*, No. 1905) points out some of the dangers where tendon transplantation for cure of paralysis is undertaken without sufficient study of the case. He details an instance which was considered appropriate for operation, in which the symptoms were due to a

tumor of the eleventh lumbar vertebra. He also mentions that the neuritic form of progressive muscular atrophy has been operated on, only to have the true condition demonstrated later on. The surgeon or orthopedist who plans transplantation must determine previous to operative procedure that the true condition is not due to a progressive disease or that the lesion has become stationary.

#### TABES DORSALIS AND THE PSYCHOSES.

Bornstein (*Monatschr. f. Psych. u. Neurol.*, No. 17) thus summarizes his consideration of possible relation between tabes dorsalis and the psychoses:

1. There is insufficient ground for the assumption that a particular tabes psychosis exists.
2. For the most part, psychic disturbances in tabes consist of anomalies of the special senses, i. e., of hallucinations.
3. Psychic manifestations in tabes must not be considered accidental complications of this disease.
4. The hallucinations are likely dependent upon optic atrophy or upon sensory disturbances.
5. Hallucinations may exist in tabes in the absence of a true psychosis.
6. In patients possessing a hereditary taint most varied insane types may develop upon a tabetic basis.

#### A PRECOCIOUS YOUTH.

Out in California a boy of five years of age, the son of a physician, gave a lesson in osteology before a county medical society, in which he gave the

names correctly of over four-fifths of the bones of the human body. We have heard of the "glorious climate of California" and this must be one of its products.



## Physiology, Hygiene and Public Health.

*Conducted by Allison Drake, M. D., Denver, Colo.*

### PHYSIOLOGY OF THE PANCREAS.

Dr. John C. Hemmeter, in an address delivered by invitation before the Medical Society of Greater New York and published in *American Medicine*, March 11, 1905, discusses the "advances in the knowledge of the physiology and pathology of the pancreas, and their application to the diagnosis of pancreatic diseases."

The relation of diseases of the pancreas—atrophy, degeneration, and tumors—to diabetes has long been noted; but the many difficulties in the way of studying the pancreas and its functions have made progress very slow in this field of research. After sketching the history of exact physiologic knowledge concerning the functions of the pancreas, he unfolds the results of the labors of many investigators.

In studying the effect of the pancreas on various food substances some confusion may be caused by the possible effects that succus entericus may have on the same articles of diet. Tryptic activity is greatly intensified and reinforced by the admixture of succus entericus. Digestion in the entire absence of gastric and pancreatic juices has been supposed to be largely, if not wholly, due to proteolytic bacteria. Late experiments indicate that the succus entericus contains a proteolytic ferment very closely allied to tryp-

sin, if not identical with it. The difficulty of diagnosing pancreatic disease by noting the defective proteolysis as observed on indigested proteids in the feces is therefore greatly increased.

The problem is made still more complex by the fact that the fat-splitting function of the pancreas receives an influence similar to the trypatic activity, though slighter.

The pancreatic ducts—the duct of Wirsung which enters the intestine in company with the common bile duct, and the smaller duct, that of Santorini, which terminates in a papilla nearer the stomach than that of the larger duct—are always present. In 10 per cent. of the cases these ducts fail to avastamose within the gland, and in probably 20 per cent. of cases, the duodenal end of the duct of Santorini is not potent. Hence it is evident that in many cases of occlusion of the duct of Wirsung the duct of Santorini could not act as an accessory duct. The diverticulum of Vater, which is formed by the union of these two ducts, appears to be absent in over 10 per cent. of all cases, and the evidence is very clear that a calculus impacted within the orifice of the diverticulum would occlude both ducts.

The pancreas is described as representing an organ within an organ. Two functionally diverse elements are

found; "first, cells which supply the intestine with important digestive ferments, those which are concerned in the manufacture of pancreatic juice; and, second, cells having no communication with the ducts of the gland, but in intimate relation with the blood vessels, and producing an internal secretion concerned in carbohydrate metabolism."

Carbohydrate metabolism is not disturbed in some cases when the entire pancreas has been destroyed by disease. The stomach and intestines may perform the digestive function of the pancreas; but it cannot be supposed that the loss of this internal secretion can be made up by these organs. To meet this difficulty Helly has found "lobules of pancreatic parenchyma situated within the papilla of the duct of Santorini and also immediately below the duodenal mucosa." These misplaced portions of pancreatic tissue are sometimes provided with an independent duct and so may constitute a true accessory pancreas.

Opie has described the ferment-secreting cells, "which are large and contain zymogen granules," forming the acini. Scattered among the acini are the islands of Langerhaus, which "consist of columns of cells in intimate relation with a rich vascular supply," but "having no communication with the pancreatic ducts."

It therefore appears that the histology of the pancreas upholds its physiology, though the difficulty of isolating either group of cells and studying the corresponding function is very great.

H. P. PACKARD, M. D.

#### PREVENTION OF SENILITY.

At the Fourteenth Annual Congress of the Royal Institute of Public Health recently in session at London, Eng., Sir James Crichton-Browne delivered an address on "The Prevention of Senility" (*The Times*, July 22). He called attention to the fact that while the death rate for all taken together had steadily and markedly decreased, the death rate for men between 45 and 75 years of age had startlingly risen.

Sir James could not agree with Dr. Osler that men above 40 years of age were comparatively useless, although he was ready to acknowledge that the most vigorous period of life was between the 25th and 40th years. He summoned as evidence in opposition to Osler's theory, or rather dictum, the lives of Nelson, Moltke, Bismarck, Palmerston, Beaconsfield, Wren, Titian, Locke, Bacon, Faraday, Roentgen, Harvey, Darwin, Verdi, Wagner, and others. He was of opinion that the most profitable period of man's activity lay between the 40th and 50th years, rather than between the 30th and 40th.

As for advanced age, there were certain centres and groups of centres in the brain which had an evolutionary cycle larger than was currently understood, and some of which might be persistently energetic in old age. In the higher nerve centres evolution went forward late in life and the freshness of youth might thus survive in old age.

Unfavorable environment and deleterious habits of life or methods of work often arrested this evolution of the higher nerve centres and induced old age prematurely.

Sir James thought that the natural limit of human life was in the neighborhood of the 100th year and that every man was entitled to his century and every woman to a little more. Every child should be brought up with the idea that he ought to live a century and should be taught how to avoid the irregularities in mode of living tending to curtail that century.

Poverty and consequent worry, unhealthful employments, bad housing, poor feeding, and lack of proper exercise were most frequent causes of debilitated and premature old age. Excessive use of alcoholic beverages certainly made men old before their time. Simplicity and tranquility of life favored longevity. Government pensions for the aged would promote longevity as life assurance is now doing.

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#### EDUCATION IN HYGIENE AND TEMPERANCE.

The London (England) Board of Education has issued a pamphlet directing teachers in the public schools to instruct the pupils in the principles of hygiene and temperance. The pamphlet says: "The training of the scholars in the observance of the rules of health should begin by getting them accustomed to rooms which are thoroughly well ventilated, scrupulously

clean, and as bright and cheerful as circumstances permit. The schools should be colored throughout in bright tints, and the walls and ceilings should be washed or recolored as often as they become noticeably dirty." Instruction is to be imparted in conformity with the following outlines:

1. The Home: Punctuality, fixed duties; cleansing of rooms, furniture, and fittings; clothing, materials, cleanliness and repair; air, windows, doors; warmth, fires, gas, coal, overcrowding; light, lighting, lamps, gas; water, washing, drinking, cleansing; money, earnings, spending, thrift, savings bank.

2. The Person: Cleanliness, hair, skin, teeth, eyesight, hearing, erect carriage, posture; good and bad personal habits; breathing, perspiration, change of clothing and bedding; signs of good health, speech, restraint, self-respect.

3. Eating and Drinking: Meat, milk, cheese; vegetables, bread, puddings; fats, butter, eggs, bacon; tea, coffee, soups, broths; overfeeding, underfeeding, unwholesome or unpunctual feeding; the path of food, the use of food; fresh air as food, bad air as poison; alcohol, its effects and dangers—not needed by young people; tobacco.

4. Illness: Minor ills, home treatment, accidents; fits, infectious illness; when to send for a doctor.

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#### AMERICAN DOCTORS AT HAMBURG.

Drs. Allan and McLaughlin, experts of the American Shipping and Immigration Society, have arrived at Ham-

burg from Naples to study the cholera and inspect the ships. They praise the city's sanitary arrangements and express regret that exaggerated accounts of the danger have been sent to America.

## General Surgery.

Conducted by F. Gregory Connell, M. D., Salida, Colo.

### THE TREATMENT OF CHRONIC BRIGHT'S DISEASE.

Rosving (*Centralblatt f. Chir.*, 1904, No. 17) takes up the method of operation in detail. He entirely disagrees with Edebohls, whose method is the total extirpation of the membrana propria of the kidney and its capsules are either partially or totally diseased—for the reason that when this is done the kidney becomes imbedded in a mass of newly formed connective tissue, which, when new, guarantees an ample supply of blood, but later these adhesions of necessity retract and atrophy, and, as a result, the blood supply to the kidney is distinctly impaired, and the kidney consequently undergoes atrophy.

In Rosving's opinion capsulectomy is indicated in only those cases in which the kidney is either partially or totally bound down by adhesions, or if the kidney be tense and markedly swollen, or the membrana propria is distended by cysts. The pain in these cases is due to an irritation of the membrana propria, which is supplied by large numbers of sensitive nerve filaments, and the essayist holds that operation is indicated only in cases of nephritis dolorosa. In those cases where marked toxic conditions exist operation is not only not indicated, but, in the majority of cases, extreme-

ly dangerous.

Out of ten cases of chronic Bright's disease which Rosving treated by decapsulation, there is not a single case in which a cure has been the result, and common sense would seem to show that when one considers the pathology of the disease, that operative interference will be of no avail. Too much stress cannot be laid upon the fact that in Rosving's judgment operative interference is absolutely contraindicated, except in those rare cases of chronic Bright's disease which are accompanied by severe kidney pain; and also in those cases of nephritis which are either traumatic, infectious or dependent upon the irritation of uric acid for their origin. Therefore, it is absolutely essential that every case should be subjected to a most prolonged examination in order that the etiology of the nephritis may be clearly determined before any operation is undertaken.

O. M. S.

### TUBERCULOSIS FROM A SURGICAL STANDPOINT.

Under the title of "A Study of Tuberculosis From a Surgical Standpoint," J. C. Oliver, in the *Lancet-Clark* of April 15, 1905, protests against the idea that there is a distinct class of cases of tuberculosis in which surgical measures will, alone

and unaided, bring about a cure, and states that operative measures are only of value when used in conjunction with proper hygienic and general treatment.

As a general rule, in tuberculosis surgery should be practiced only when the surgeon is driven to operate by necessity, because Nature makes a very determined effort to isolate and encapsulate the primary foci of this disease.

The theoretically ideal treatment would be a complete removal of the tuberculous area at the time it is small and distinctly localized, but practically these cases are not diagnosed until after a complete removal of the focus is impractical or impossible.

The non-operative treatment will have for its purpose the assisting of Nature in her efforts to overcome the disease by isolation and starvation. The chief of these agencies is rest; others are fresh air, sunshine and food.

In cases of "cold abscess" do not incise unless it must be done to prevent a spontaneous rupture.

Excision is followed by the best results in the knee joint, because it is much more easily exposed than are the other joints, and a complete extirpation of the infected tissue can be made more readily.

Tuberculous glands of the neck are rarely a primary condition. After internal and local treatment, with proper hygienic and dietetic management have proved ineffective, operative measures should be resorted to. If both sides of the neck are involved, the operation on the second side should be done after an interval. The glandular mass with the intervening tissue should be re-

moved in one piece. Recurrence, i. e., enlargement of glands overlooked at the time of the operation, is not uncommon. Subsequent pulmonary involvement is rare.

In tubercular pleurisy the diagnosis is arrived at only by finding the bacilli in the fluid. When serous, aspiration is usually all that is necessary to bring about a cure. But when purulent, it must be treated as an ordinary empyema.

In tubercular peritonitis the diagnosis is frequently very difficult, cholecystitis and appendicitis being perhaps the most frequently mistaken conditions. Attention is particularly called to the temperature and the presence or absence of an afternoon rise.

Arguments and conclusions in favor of the medical and the surgical treatment of this condition are quoted at length to show the variance of opinion.

In conclusion, he says perhaps one will not be seriously mistaken if he gives these patients the benefits of hygienic and medical treatment, and advises operation in those who do not improve under it.

L. R. Williams (*Medical News*, March 18, 1905) recommends the open-air treatment of surgical tuberculosis along the same lines that are being carried out in pulmonary types of the disease. Fresh air, sunshine, rest, plenty of food and sea bathing, in conjunction with general treatment and special attention paid to the digestive tract, including the mouth and teeth, has been followed by very satisfactory and encouraging results in his hands at temporary hospitals on Coney Island.

The patients were poor children from New York, and all forms of surgical tuberculosis were encountered.

#### MOVABLE KIDNEY.

Sprigg (*Am. Jour. Obst.*, Dec. '04) comments upon the principal causes of the failure of nephropexy, and these are herewith enumerated:

1. Delay in operating until the health of the patient is seriously impaired.

2. Failure to properly prepare the patient for the operation, and thus avoid vomiting, which may loosen the kidney from its new attachment.

3. Chronic enteroptosis as a complication of nephropexy. In such cases after the kidney has been anchored the general viscera must be supported by proper bandages in order to attain successful results.

4. Delay in operating until the kidney has become seriously crippled or an incurable inflammation of the organ developed.

5. Faulty insertion of the sustaining sutures, tearing out, or too rapid absorption.

6. Failure to completely detach the fatty capsule from the capsule proper, so as to separate the organ from the colon and duodenum on the right side, and the colon and small intestine on the left side.

7. Attachment of the kidney too low down where it will be subject to pressure by constricting waistbands, or when the suspension sutures are placed too near the lower pole, thus allowing the upper pole to fall forward or to form a flexure of the kidney.

8. Too early removal of the sustaining sutures or too early absorption of the fixation sutures.

The following deductions are therefore offered:

1. That the relief obtained from bandaging in any case of movable kidney will depend on the presence and degree of associated enteroptosis.

2. That fixation of the kidney in as nearly a normal condition as possible is the correct method of surgical procedure.

3. That in all cases where the relief of the symptoms can not be obtained, from either bandages or correct corsets, nephropexy is indicated.

O. M. S.

#### A CASE ILLUSTRATING SOME POINTS IN THE TREATMENT OF MOVABLE KIDNEY.

Grey (*Edinburgh Med. Jour.*) describes the case of a woman who had been operated on for movable kidney four years before being seen. For two years much relief ensued, but after this there was a gradual return of the symptoms. A month before being seen she had a fall, and from this time the complaint became greatly aggravated. Pain in the right side was severe, intensified on exertion and on standing. It was relieved by lying down. Severe retching came on in attacks, and on several occasions she had fainted. During the attacks there was frequency of micturition, and at times she was suddenly compelled to pass large quantities of urine, after which the pain was lessened. In very severe attacks blood had been noticed in the

urine. Her life was made wretched and she suffered from sleeplessness.

As she was a stout woman, palpation of the abdomen was difficult. There was great pain over the right side of the front of the abdomen and the region was tender on pressure, as also was the lumbar region on the same side below the scar of the incision. No satisfactory examination could be made, only when the patient inspired deeply was there a suspicion of a movable kidney being present; then the tenderness was increased while the hand was pressed back into the region of the kidney. Chloroform was administered, but examination under these conditions gave no further assistance. The urine was normal.

Operation was performed on Dec. 4, 1903. The right kidney was found to be firmly fixed (apparently) to the abdominal wall by strong fibrous adhesions. There were also two dense fibrous bands stretching across the front of the ureter about one inch below the kidney. Further examination proved that the upper three-quarters of the kidney were quite free from adhesions. While this portion was being palpated, the kidney suddenly swung downwards and forward so that its upper pole faced to the opposite iliac region. Clearly then, in the erect position, or on exertion, the organ might assume the transverse position described; the rotation of the kidney would thus tend to kinking of the ureter at probably two points. The gall bladder and the appendix were both found to be normal. The under

surface of the liver was studded with hard nodules, the size of a split pea, and of grayish color. The nodules did not strike the author as being either tubercular or malignant. The peritoneum elsewhere was normal.

The kidney was freed from adhesions; in its lower portion the capsule had to be incised and shelled off. The fibrous bands over the ureter were divided. Strips of gauze were packed round the kidney, leaving its pelvis quite free. The ends of these strips were brought out of the posterior part of the wound, the rest of which was sutured. The gauze was kept in position for seven days. The strips were then removed under gas anæsthesia, and a thick drainage tube was inserted down to the kidney. The patient remained recumbent for one month. All symptoms, except sleeplessness, disappeared, and she was able to return to her duties.

The writer says that, by many, the operation of nephropexy is regarded as somewhat useless. He says that the operation is followed by an unnecessarily large number of failures. In some cases the kidney is as movable as before the operation; in others, the organ remains apparently fixed, yet the symptoms continue, or even become aggravated. This latter result was that which followed in the author's case.

He believes that failure to fix the kidney is due to the fact that no effort is made to remove the layer of peritoneal fat which is found between the kidney and the abdominal wall. Should a fatty pad be left between the

kidney and the comparatively fixed abdominal wall, it is not easy to see how success can be attained. He does not use strips or special supports to the lower part of the kidney. These secure strong fixation of the lower part, but unless similar fixation can be secured for the upper portion of the organ, the symptoms due to rotation, as observed in this case, may, very probably, ensue.

During late years, the author has always examined the condition of the gall bladder, the bile ducts, pylorus, appendix and broad ligament, in all cases in which the diagnosis was doubtful. As he observes, it is often difficult to ascertain whether the case is one merely of movable kidney, or whether some affection of the parts just referred to is present as a complication. Palpation of these parts, which can easily be effected through the lumbar wound, will settle the matter.—(*Cher. Med. Jr.*)

#### THE ETIOLOGY OF APPENDICITIS.

In the *Annals of Surgery* for March, 1905, C. Van Zwalenburg speaks of "The Relation of Mechanical Distension to the Etiology of Appendicitis." He states that the four conditions in the etiology of appendicitis are: concretion, constriction, pathogenic germs (which are always present), and distension. One other necessary condition is the hydrostatic pressure in the diseased appendix. Pressure upon the blood-vessels in the interior of the appendix lowers the resistance and the germs do their work. If continued, it

obliterates blood vessels, and produces necrosis and gangrene.

Many attempts have been made to explain the vascular changes by trauma, or pressure from concretions, foreign bodies, kinking, or torsion; but the fact that fluid can produce pressure upon blood vessels as well as solid bodies has been overlooked.

With the occlusion of the lumen of the appendix, there are three different fluids concerned in the process, each subject to different pressure and separated only by thin membranes. These are those of the veins, the lymphatics, and the fluid in the occluded cavity. The result is increased pressure, impeded circulation, lack of resistance of the cells, and infection. Following the infection there is complete strangulation, necrosis, and gangrene, if the pressure is not relieved.

The obstruction may be a kinking of the appendix, or even a plug of mucus of a fecal mass within the cæcum may close the opening of the appendix.

The degree of distension necessary to cause infection is still uncertain. Van Zwalenburg has made extensive experiments upon dogs, which are reported in detail in the *Journal of the American Medical Association*, March 26, 1904.

The germs involved in the process are normally present in the appendix in health.

The suddenness of the onset in many cases can hardly be explained except on the ground of a sudden mechanical change having taken place, and the sudden cessation leads to the same conclusion.



The author also asks the pertinent question, "Why is the necrosis or gangrene confined to the portion beyond the stricture unless that stricture is to blame for it?"

The practical bearing of this view rests upon a possible better understanding of the pathological changes that are taking place, and, therefore, a more rational interpretation of the signs and symptoms and their relation to each other, with a resulting increase of accuracy in the diagnosis, prognosis and treatment of appendicitis.

In the lay press considerable prominence has been given to an article by Joseph Kidd of London, in which the cause of appendicitis is attributed to "chills," when heated, especially after violent exercise, hurried eating and imperfect mastication, and, of most importance, the excessive use of aperient waters, salts and liver pills.

The *London Lancet*, Feb. 11, 1905, pays attention to the last etiological factor given above and concludes that there is little clinical or post-mortem evidence in support of the proposition. The explanation that these laxatives remove the watery constituents of the feces and leave a residue at or near the opening of the appendix, is not substantiated by autopsies. The cæcum almost always contains liquid contents, and in autopsies upon those who die of appendicitis large accumulations in the colon are very rare.

Clinically, appendicitis occurs in young adults, and these drugs are not as a rule habitually taken at that time of life. Appendicitis is more common in men than women, still constipation is much more common in women than in men.

Therefore, the *Lancet* concludes that the use of these purgatives do not, in themselves, cause appendicitis. G. Hauser, in discussing "The Prevention of Disease of the Veriform Appendix," in the *N. Y. & Phila. Med. Jour.*, June 10, 1905, says: "The most prolific cause of appendicular trouble is probably over-retention of feces, due to the ever-prevalent constipation. A mass of undigested residue in the cæcum and colon undergoes decomposition and causes irritation and inflammation in the region of the appendix."

The prevention of this constipation should begin in childhood, and it must be remembered that the bowels may move naturally daily and still there may be retained within the intestine a large accumulation of feces.

A second cause of but slightly less importance is "indigestion" and the various hygienic and dietetic errors that lead to this condition.

The points in this article, which are practically the same as those of Kidd, will be found to be considered above by this writer in the *Lancet*.

F. G. C.

The fourteenth annual meeting of the Erie Railroad Surgeons' Association was held last week in the Hotel Astor. Dr. F. A. Goodwin, of Susquehanna, Pa., presided, and about fifty physicians were present. Papers

were read on many subjects, including the following: "The Eyes of Railroad Employees," "Reflex Pains," "Emergency Hospitals for Shops," and "Some Principles to be Considered in the Handling of Railroad Cases."

## Ophthalmology and Otology.

*Conducted by Melville Black, M. D., Denver, Colo.*

### INJURIES FROM BURSTING OF LOCOMOTIVE WATER AND OIL GAUGES.

C. D. Conkey, M. D., Superior, Wis. (*The Ophthalmic Record*, May, 1905), quite justly remarks that this subject has not received the attention that it warrants, and the present movement, when there is so much activity in improving the tests for color blindness and the vision of railroad men, seems an opportune time to present it. The oil and water gauges on both locomotives and stationary engines are constantly breaking, and, unless protected by some kind of wire mesh, flying particles of glass are very likely to penetrate the eyes of the engineer or fireman and cause irreparable damage.

Dr. Conkey reports several cases thus injured, the vision being permanently damaged or lost. I could add several more, as could almost any oculist of experience. I am informed that most of the manufacturers of locomotives are protecting their oil and water gauges with wire mesh, but that this is not true of stationary engines. Further, that owing to the difficulty of keeping the glass clean while covered with wire mesh, the engineer removes the mesh. Workmen who are constantly exposed to danger, especially in railroading, are prone to disregard little dangers, such as the bursting of water glasses. There is scarcely an engineer of experience

who has not seen many gauges break, but since he was fortunate enough to escape injury, he does not regard it of importance except to his engine. A more careful engineer may be subjected unwillingly to danger from the bursting of these glasses because of some former engineer having removed the wire protectors, and the company thus becomes responsible in case of his injury.

Manufacturers should be required by the railroads as well as by purchasers of stationary engines to cover the oil and water gauges with wire protectors, and it then should be the duty of the employer to see that the employee does not remove them. A penalty for a breach of this rule could be imposed, which would soon put a stop to the insubordination.

### ON PERITOMY FOR DIFFUSE CORNEITIS AND OTHER AFFECTIONS OF THE CORNEA.

Simon Snell, F. R. C. S. Edin, Sheffield, Eng. (*Ophthalmology*, April, 1905), discusses this subject.

Much has been written in this country upon it, especially by Coover and Fox, but Snell is either unaware of their published reports or sees fit to ignore them. This is altogether too common with our foreign confreres.

Snell describes his operation as fol-

lows: "Cocain and adrenalin are instilled. A speculum is used to separate the lids, and the patient is directed to look downward. A fold of conjunctiva just beyond the cornea at the upper part is seized with forceps and is then snipped with curved scissors. From this point the conjunctiva is severed all round the cornea at a distance of from 2 to 3 mm. The portion left adhering to the cornea is next dissected up and removed with scissors. The division of the conjunctiva around the cornea is facilitated by using a pair of scissors having one blade somewhat longer than the other and ending in a bulbed extremity, which readily runs underneath the conjunctiva.

"Recovery from the operation is usually rapid, especially in young subjects. For a few days a rim of bare sclerotic is visible, but after the lapse of a very short time there is little and later often no indication of any operation having been performed. In no instance have I seen any ill effects from it."

The complete operation is recom-

mended rather than a partial peritomy.

Snell has performed this operation largely for diffuse keratitis. We take this term to mean the diffuse opacity of the cornea associated so frequently with scleritis. He also performs the operation for recurring ulcers of the cornea, for the superficial ulceration of the cornea which occurs in middle-aged or elderly people, and which tends to spread ultimately over a large part of the corneal surface, in cases of detachment of the corneal epithelium, and for relapsing iritis.

Personally, I have for years held the operation of peritomy in considerable esteem. At first I performed the operation in cases of pannus associated with trachoma, and later begun performing it in cases of keratitis associated with scleritis. In both these conditions it has served me well. For certain ulcerative conditions of the cornea I can understand how it might be serviceable, and am disposed to try it, although as yet I have never done so.

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### Foreign Literature.

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*Conducted by Wm. J. Baird, M. D., Boulder, Colo.*

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#### HODGKIN'S DISEASE TREATED BY NEW TUBERCULIN.

Rennert (*Deutsche med. Woch.*, No. 23, 1905) reports a case of Hodgkin's disease due to tuberculosis, complicated by tuberculosis of the iris, treated by new tuberculin.

While in leukemia we have a fairly characterized, pathologic entity, in pseudoleukemia, Hodgkin's disease, lymphosarcoma, and malignant lymphoma, we have conditions varying so widely that many recent workers think they should be classed as so many dis-

tinct diseases. The swelling of the lymphic glands, elevation of temperature, gradually increasing cachexia, and normal, or only slightly abnormal, morphology of the blood, they have in common, but, in a certain number of cases, the etiology and pathologic anatomy seem to justify a differentiation or classification as distinct diseases.

Kundrat distinguishes between true new growths, pseudoleukemia, and lymphosarcoma, the latter being distinguished from new growths by less marked tendency to metastasis, the rare involvement of the organs usually the first to suffer from the development of new growths, and the almost exclusive development of lymphosarcoma in the mucous membrane of the small intestine, its spread by way of the lymph channels and only rarely by the blood channels, and the rare occurrence of retrograde metamorphosis.

According to Benda, in pseudoleukemia the swollen glands occasionally break their capsules, while in lymphosarcoma an extension to contiguous structures is the rule rather than the exception, and the disease extends from gland to gland, but there is no swelling of distant glands as in pseudoleukemia, and the liver and spleen are rarely involved. In pseudoleukemia the pathologic process is a simple hyperplasia, while in lymphosarcoma there is atypic tissue formation and lymphoid cells are present.

A second group of cases which, since publication of the papers of Pel and Ebstein, have attracted the attention of many clinicians, is characterized by the

usual symptoms of pseudoleukemia, but, in addition, also, by regularly recurring periods of febrile elevation of temperature with normal temperature during the interval. Occasionally during these fever periods there is either enlargement or diminution in the size of the glands and spleen.

Askanazy has reported cases that ran the usual course of pseudoleukemia, but at autopsy showed a modified gland tuberculosis. Similar cases have been reported by Paltauf, Sternberg, Falkenheim, and Yamasaki. On the other hand, tuberculosis is held to be secondary or accidental by Fischer, Reed, Dietrich, Warnecki, and Hutchinson.

Hans R., aged 8, of healthy family, has had whooping-cough, measles, broncho-pneumonia, and diphtheria. Since Jan. 1, 1904, he has emaciated, has seemed unwell, but has had no other evidence of disease. February 3, 1904, his temperature was  $38.8^{\circ}\text{C}$ ., spleen soft and palpable, tonsils enlarged, lymphatic glands of the neck, axilla, and inguinal region swollen, and there were anemia and emaciation. Within a few days the temperature returned to normal with occasional rises to  $38.1^{\circ}\text{C}$ . The hemoglobin was 60 per cent., the red and white corpuscle count, normal.

Rest in bed, and quinine, iron, and arsenic were seemingly without effect. There was continued loss in weight. At the end of May there were, at both apices behind, sounds resembling pleuritic friction, but not constant. For a short time there were cough and a small amount of sputum, but no tubercle bacilli.

By the end of June there was no improvement. The spleen was larger and harder, and the margin uneven. The glands were larger and additional ones involved, especially in the region of the spleen and scapula. The temperature and the blood-findings were unchanged. The friction murmur had disappeared. July 26 there were marked ciliary injection (left eye), photophobia, lachrymation, clouding of posterior surface of the cornea, precipitates in the anterior chamber, and somewhat deepened, clouded aqueous. The iris was injected, and on the outer margin of the pupil were two yellow, confluent tubercles. Below and to the outer side, surrounded by a network of capillaries, growing from the anterior chamber, there were two similar tubercles with fine capillary network on the surface; in the ciliary margin of the iris four miliary tubercles surrounded by capillaries. The pupils were medium wide, the margin adherent to the capsule and surrounded by a wide pigment band. In the region of the pupil was a slight exudate. Ophthalmoscopically the weak, red, light fundus was not visible.

The diagnosis of tubercles of the iris was evident and the patient was referred to von Hippel for treatment with the new tuberculin (for method see abstract in a former number of this journal). The temperature was taken every two hours and if the given dose was followed by a rise in temperature of  $0.5^{\circ}\text{C}$ . it was repeated.

On October 28th the tuberculin was begun without local or general reaction. On November 7th the eye was

free from injection and there was no photophobia. November 9th, both lower tubercles were smaller. November 11th, in the ciliary region of the iris two new tubercles appeared. November 15th, one of the lower tubercles was reduced one-half in size and the other was smaller than at the beginning of the treatment. November 23d, both lower tubercles were very small and the external miliary tubercles had all disappeared. The inner ones were still visible, but less vascular. December 12th, both lower tubercles had disappeared, the exudate in the region of the pupil was diminished, and the miliary tubercles in the iris were visible as small clear spots. The general condition was good. December 24th, the iris in the region of the former miliary tubercles was atrophic, "slate gray"; the precipitate on the posterior surface of the cornea was much less; the aqueous was clear and the iris free from capillaries. December 31st, the pupillary exudate was diminishing and the lens was clearer,  $S=0.3$ . January 10th, 1905, aside from partial atrophy and posterior synechia (almost total), the iris was normal, the precipitate almost entirely disappeared and the pupillary exudate less marked, the fundus visible and normal,  $S=0.4$ . February 5th, the patient was discharged cured;  $S=0.6$ .

The tuberculin treatment was borne without local or general reaction, and the weight gradually increased—10 pounds in six months.

The influence of the treatment on the glandular enlargement was sur-

prisingly favorable. February 5th, the spleen was reduced to at least one-third its former volume, the margin and surface were smooth, and there was but slight swelling of the glands in the axilla, palpable in the neck and in the inguinal region. Injections (tuberculin) were continued to May 1,

when the spleen was further reduced in size;  $S=2/3$ .

In view of the results of treatment we are justified in believing that this was a case of glandular tuberculosis simulating Hodgkin's disease, and that similar cases should be given the benefit of the therapeutic test—tuberculin.

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## BOOK REVIEWS.

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**ARTERIA UTERINA OVARICA.** The Utero-Ovarian Artery or The Genital Vascular Circle. Anatomy and Physiology, with their Application in Diagnosis and Surgical Intervention. Byron Robinson, B. S., M. D., Chicago, Ill. Author of "Practical Intestinal Surgery," "Landmarks in Gynecology," etc. E. H. Colegrove, publisher, Chicago. 1903. Price \$1.00.

The data on which this monograph is based the author claims to have secured through fifteen years of experimental research and many years as a gynecologist. It is presented to the medical profession in the hope that it will contribute to the progress of medical science. Although this artery with a part of the abdominal aorta, common iliac and internal iliac was fully described in a monograph, published by the author some years ago as the "Circle of Byron Robinson," the new feature of this book is the utility of the genital vascular circle in surgical intervention on the tractus genitalis. The author endeavors to impress the reader with the fact that the genital

vascular circle has more utility in medicine than the circle of Willis, which so greatly governs cerebral phenomena.

Since hysterectomy has become a recognized, useful operation, the utero-ovarian artery should be studied with care and detail. We know of no other work upon this subject that will supply the reader with so much information as the one under discussion. The numerous colored plates and half tone illustrations enhance the value of the book greatly.

This monograph constitutes a good introduction to a wider and deeper study along gynecology. O. M. S.

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### LEA'S SERIES OF MEDICAL EPITOMES.

Edited by Victor C. Pedersen, M. D. Arneill's Epitome of Clinical Diagnosis. A Manual for Students and Practitioners. By James R. Arneill, A. B., M. D., Professor of Medicine and Clinical Medicine in the University of Colorado, Physician to the County Hospital and to St. Joseph's Hospital, Denver. In one 12mo volume of 244 pages, with 79 engravings and a colored plate. Cloth,

\$1.00, net. Lea Brothers & Co., publishers, Philadelphia and New York, 1905.

This is the seventeenth of the twenty-two volumes of which this series is composed, and is a good representative of the entire series. The volume is a small one of some 240 pages, but contains a vast amount of thoroughly practical data on the subjects indicated in the title. The author is a well-known teacher, formerly of the University of Michigan, now of the University of Colorado, and, as such, knows well what is desirable for the student to learn, and has the faculty of making the essentials most impressive. The work is well illustrated, the illustrations being entirely pertinent to the subjects with which they are associated.

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**HANDBOOK OF ANATOMY.** Being a Complete Compend of Anatomy, Including the Anatomy of the Viscera and Numerous Tables, by James K. Young, M. D., Professor of Orthopædic Surgery, Philadelphia Polyclinic; Clinical Professor of Orthopædic Surgery, Woman's Medical College of Pennsylvania; Instructor in Orthopædic Surgery, University of Pennsylvania; Fellow of the College of Physicians of Philadelphia; Fellow of the Philadelphia Academy of Surgery; Fellow of the American Orthopædic Asso.; Member of the American Medical Association, etc. Second edition, revised and enlarged. With 171 engravings, some in colors. Crown Octavo, 404 pages, extra flexible cloth, rounded corners,

\$1.50 net. F. A. Davis Company, publishers, 1914-16 Cherry street, Philadelphia.

The object of this little book is, as the title indicates, to furnish a concise though complete handbook of human anatomy for the use of students of medicine and others.

The author, from a personal contact with students, the limited time at their disposal and the unlimited amount of medical material to be digested, has endeavored to furnish the busy medical student with a concise, yet accurate description of human anatomy.

In our opinion, the medical student who is so preoccupied as to learn his anatomy from quiz-compends will in after life recognize his error, by finding his knowledge of anatomy quite limited, and our advice to him would be to learn his anatomy from the well recommended text books, but as an aid in the dissecting room such books as these are urged and will be found by the student of great value.

The descriptive matter in the chapters on the viscera, special senses, vascular system and surgical anatomy will render this book valuable to the busy practitioner, although the work is prepared particularly for medical students.

O. M. S.

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**THE PSYCHIC AND PSYCHISM.** By A. C. Halphide, A. B., M. D., B. D., etc. Author of "Mind and Body," "The Theory and Practice of Suggestive Therapeutics," "Clinical Hypnotism," etc. First edition, Lewis S. Matthews & Co., 2623 Olive St., St. Louis.

This small volume will interest persons whose habits of thought deal much with transcendental phenomena. Its contents, however, have nothing to do with modern medicine. A selection of chapter heads, such as telepathy, clairvoyance and clairaudience, spiritism, etc., makes this statement plain. The doctor may find these subjects of interest, but he may not reflect their influence in his practice. There are several reasons for this, but only one need be spoken of here, because in itself sufficient. As we have previously had occasion to remark in these columns, the science of medicine has been essentially material. Aside from the working hypothesis, always in order, all progress within this domain has been attained by objective investigation. In this connection we have only to remember immortals in medicine and their work, ancient, medieval, modern. Speculation as to potential senses beyond the usual five will avail the physician nothing in this day, at least. Being of the million and not of the elect, he cannot visualize morbid conditions by touch, as could the psychometrist who sees prehistoric life by proximity to geologic specimen. Indeed, it is mere inheritance only that suggests bringing such intangible speculations in touch with modern medicine—a legacy from the time that medicine and demonology were synonymous. Therefore was authority then voiced by theologian, casuist and metaphysician, who together elaborated those misty conceptions of physical disease that only systematic clinical study, in a most marvelous way, has succeeded in dispersing. B. O.

**OUTLINES OF PSYCHIATRY.** Introductory lessons designed for the use of students of medicine. By Charles Gilbert Chaddock, M. D., Professor of Disease of the Nervous System, Marion Sims-Beaumont College of Medicine, Medical Department of the St. Louis University. Lewis S. Matthews & Co., 2623 Olive St., St. Louis.

This publication will prove serviceable to the medical student. Its value, however, would be greatly enhanced by a subject index, which should be added.

In the introduction the author recites a number of general facts concerning this branch of medicine which it is well for the physician, and especially the medical witness, to keep always before him.

There is a chapter each upon historical review, elementary psychology, mind and its attributes, anomalies of mind, those of feeling, and upon disturbed functions associated with mental disease.

The clinical description of insanity is accomplished in part by consideration of clinical entities, such as, paralytic dementia, paranoia, epileptic insanity, etc.; in part by adherence to older methods of portrayal of affect conditions, as, for instance, emotional exaltation, emotional depression, delirium, etc. The former procedure might with benefit have been developed to include additional recognized types, such as the confusional forms, the recurrent mania, and depressive degeneration, etc. Nevertheless, the book as it stands is of value to the student of insanity and is recommended. B. O.







*N. G. Williams.*

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## ORIGINAL ARTICLES

### THE CURE OF CONSUMPTION BY FEEDING THE PATIENT WITH SUBCUTANEOUS INJECTIONS OF OIL, AND ITS DIGESTION BY THE WHITE GLOBULES OF THE BLOOD

By THOMAS BASSETT KEYES, M. D., of Chicago.

*Chairman of the First Organization Committee of the American Congress of Tuberculosis, and one  
of the Vice Presidents of the International Congress of Tuberculosis, St. Louis, 1904.*

By the method of treatment which I am about to describe in this paper I believe that consumption can be absolutely cured.

First, however, before entering into the merits of this treatment, let us briefly consider the disease.

Tuberculosis is a disease of mal-nutrition, and while the presence of the germ confirms the diagnosis, before the germ can grow it must find a suitable soil, there must exist a pretubercular condition. It is estimated that we all breathe in a great many of these germs but that they cannot grow in a healthy, well nourished individual. People who have consumption do not eat fats, oils, and cream in sufficient quantities. The first requisite in an attempt to cure tuberculosis has been for many years, and particularly of late years, to feed the patient on various oils, and the most successful sanitariums have adopted a process of food forcing, using the fats of meats, butter, and cream as the principal foods to be relied upon to effect a cure, each article of diet being selected for its fat-producing and strength-giving properties. To this a vigorous

out-of-door life has been advocated, because why? It promotes appetite and the out-of-door life is conducive to place the body in condition for the absorption of more fats. I was one of the first to advocate tent-life for the treatment of tuberculosis in two articles entitled: "Camp and Outdoor Life as an Aid to the Permanent Cure of Tuberculosis," Feb. 21, 1900, and "Some Results of Camp and Outdoor Life in Northern Wisconsin," Congress of Tuberculosis, May 15-16, 1901, and some four years ago I located an out-of-door camp for the treatment of these invalids in Northern Wisconsin.

To maintain nutrition has long been considered the prime requisite of cure, and an increase of weight is an indication that nutrition is overcoming the disease, and as weight increases there comes strength, and the passing away of the other distressing symptoms, such as the products of the disease, expectoration of mucus, fever and finally cough. Prof. Osler has stated that the arrest and cure of the disease is entirely a matter of nutrition and that the whole object of treatment is to fortify the patient's constitution against

the inroads of the disease so that the individual cells of the body have the stamina to fight against and destroy the tubercle bacillus. Regarding tuberculosis Dr. J. H. Elliott, Canadian Journal of Medicine and Surgery, March, 1903, says that nutrition is dependent upon the proper assimilation of food, while improvement must be proportionate to the increase in the amount assimilated. All therapeutic measures, says Marfan, should be devoted to the end of nutrition, and the earlier such measures are instituted the greater the prospect of cure. Without going further into the fact that the whole cure of tuberculosis up to the present time is dependent upon our ability to nourish the patient, except to say that the methods of Dettweiler, von Leyden, and Hoffman of Germany depend upon results from nutrition, and to this end they have advocated forced diet regardless of appetite. If the patient was to recover he must eat. Out-of-door life was important inasmuch as it supplies to some extent the appetite.

Anorexy is one of the worst symptoms against the cure of tuberculosis. It is impossible to get the average patient to eat enough fats, and a person who eats plenty of fats never has consumption. A person who has consumption is the one who leaves the fat from his meat, eats very little butter, and little of cream and milk. He does not and has not lived upon a proper nourishing diet. When a patient is far advanced in the disease he is unable on account of this loss of appetite and nausea, to eat sufficient food to maintain nutrition, and therefore gradually declines as the disease advances.

In the above few words I have tried to convey the importance of nutrition in the cure of this disease, believing that the cure rests entirely upon our ability to so nourish the system and stimulate the cells of the body that they will throw off the disease.

#### THE DIGESTIVE POWER OF THE WHITE BLOOD CELLS.

Experiments have been conducted principally by the Italian physicians, and a few Germans, viz.: Gabrelschewski, *Arch. f. Exp. Path.*, 1891, bd. 28; Czerny, *Arch. f. Exp. Path.*, 1893, bd. 31; Leviertaro, *Arch. Italiano di Clinica Medica*, n. 3, 1893; Tarchetti e Parodi, *La Clinica Medica Italiana*, n. 10, 1899; Kraminer, *Berl. klin. Woch.*, n. 6, 1890; Oliva, *Gazzetta degli Ospedali*, 17 giugno, 1900; Tarchetti C. Sull' esistenza di un fermento diastase nei corpuscoli bianche, *Gazzetta degli Ospedali*, n. 90, 1900; Sull natura e sul significato della sostanza iodofila dei globuli bianchi, *La Clinica Medica Italiana*, n. 8, 1900; Di una pretesa degenerazione amilodea sperimentale, *La Clinica Medica Italiana*, n. 7, 1900; Richerche nulla degenerazione amiloidea spermintale, *La Clinica Medica Italiana*, n. 11, 1902; Porcile v. Sul valore semeiologico della reactione iodofilia nei purulenti, *Gazzetta degli Ospedali*, Milano, n. 102, 1900, which go to show that there is a glycogenic ferment in the cells which has the power to digest starches. These experiments have been carried on principally to discover a cause for the disease diabetes. It has also been shown, more or less perfectly, by some of these same observers that fats also may be digested by the blood, and that the white blood cells have the power of digesting oils. Though these experiments according to Tarchetti, *Clinica Medica Italiana*, 1900, are not definite, it is clear that the white cells of the blood possess a ferment or property which has the power of digesting fats and starches, without going into the process biological, chemical, phagocytic, osmotic, etc., which has been gone into by Dr. Spezia in the numbers 5 and 6 of the *Gazzetta Medica Lombarda*, 1904, for as Tarchetti, *Gazzetta degli Ospedali*, n. 28, 1904, says, "Is it possible to follow the rapid course

of oil injected into the internal organism and the phenomena positively chemical, of osmosis, of phagocytosis, and of digestion intercellular?"

Upon the digestion of oils by the blood I base this claim for a cure of tuberculosis. So far I have tried to show (1) that the cure of consumption must necessarily depend upon a proper supply of nutriment, the disease being primarily a disease of malnutrition; (2) that consumptives suffer so much from loss of appetite, nausea, and perhaps non-absorption, that as a rule they are unable to take sufficient amounts of fats to overcome the disease; (3) that the blood cells possess a ferment capable of digesting fats.

I will now give my results in the cure of tuberculosis by the subcutaneous injection of oil. The oil which I have selected in the treatment of my cases has been olive oil of a very high grade, thoroughly sterilized, using olive oil in preference to other oils on account of it being non-irritating and very readily accepted by the system. The point selected for the injection has been over the shoulder-blades, injecting one day over one shoulder, and the next day over the other, excepting when a large amount of oil is used, when it is necessary to inject over both. There is very little pain connected with the injection, and the following day it is hardly possible to find where the injection was made. By being careful in my technique of cleanliness and sterilization, so far no infection has taken place and consequently no soreness, though I believe the non-irritating properties of the oil has a great deal to do with this. The amount of oil varies. I commence by injecting 12 c. c. of oil each day and the third day increase the amount to 24 c. c., and about the fifth day to 40 c. c. If no unpleasant or inconvenient symptoms arise I keep gradually increasing the dose to full tolerance of

the patient, which varies with the individual and the stage of the disease. Those who are poorly nourished will sometimes assimilate large quantities of oil up to about 200 c. c. daily. In this manner I have treated nine consecutive cases successfully, and within 24 hours after each treatment there is a remarkable benefit from all the symptoms, such as diminished morning cough, night sweats, increased strength, and finally gain in weight. Some of the very worst cases of tuberculosis under this plan of treatment have gained each day and I believe have been thoroughly cured. The syringe which I use is an aspirating syringe reversing the piston with a thumb-screw, it requiring considerable pressure to force the oil under the skin.

By injecting oil thus it is absorbed and assimilated by the blood cells and there is a great increase in their numbers. Thus all of the indications for the cure of tuberculosis are met. It overcomes the disease through increased phagocytosis and thus the active cells destroy the disease. Nutrition is re-established. The time required to overcome all symptoms is remarkably short, and one will be greatly surprised at the benefits which come with treatment. Physicians should use great care in the amount of oil given, for very large doses if long continued might result in fatty degeneration of certain organs, but with the disease tuberculosis this is not apt to occur, as tuberculosis and fatty degeneration are antagonistic. I have based the claims of this treatment as a cure for tuberculosis from my experience and clinical evidence and from my conviction. I give my results this early believing that the cure of tuberculosis is solved and that by so doing many lives will be saved. Of course to the above treatment should be added all that has been found useful in the treatment of tuberculosis, the chief of which is a forced diet of

articles selected for their nutrition, such as meats, fats, butter, and cream, out-of-door life, and hygiene.

I hope and trust that physicians will at once take up this method of cure; and I respectfully request that those doing so

will communicate their results to me, as by broader knowledge much good may come, and it is my desire to report these results at the International Congress of Tuberculosis to be held in St. Louis this year.

### **LIGHT—ITS THERAPEUTIC IMPORTANCE IN TUBERCULOSIS AS FOUNDED UPON SCIENTIFIC RESEARCHES**

By J. MOUNT BLEYER, M. D., F. R. A., M. S., LL. D., New York City.

*Chairman on Light and Electricity, American Congress on Tuberculosis, held at St. Louis, October, 1904.*

*(Concluded from the September Number.)*

We have thus seen that the magnetic, electric powers of the sun's rays reside in the violet ray, which is a compound of the blue and red rays. These constitute what are termed the chemical powers of the sunlight. That they are the most important powers of nature, there can be no doubt, as without them life cannot exist on this planet. Without these chemical powers there could be no vegetation or anything else.

Light is inimical to, and under favorable conditions may wholly prevent, the development of organism. The action of light entirely destroys the bacteria, or reduces them to a condition of torpidity which requires months of darkness in favorable surroundings for them to overcome. In my experiments, I took small test tubes containing cultivation fluid, which were suspended in deep, narrow boxes made of garnet, red, yellow, blue and ordinary glass, respectively. Although the blue and yellow glasses were not monochromatic, the results showed that the action is chiefly dependent on the blue and the violet rays.

It is probable, therefore, that if the phenomena were represented by a curve, the maximum elevation would be found in or near the violet. The organisms, with which many of the experiments were carried out, afford an example of protoplasm

in a simple and uncomplicated form, but it would be unreasonable to suppose that this protoplasm is so essentially different in its fundamental constitution from all of the protoplasm, that here, and here only, is this special effect of light to be found. There are many facts which prove the contrary and indicate, not a special and fortuitous phenomenon, but a general law.

I have found that not all the rays of the spectrum are able to exert an influence upon the direction of the movement of the spores, it being only those which are strongly refracted (blue, indigo and violet) that produce stimulation. If a vessel containing a deep-colored solution of ammoniated copper oxide which only transmits blue or violet rays, be placed between the source of light and the preparation, the spores are seen to react just as if they came in contact with ordinary white light; on the other hand, they do not react at all to light which is passed through bichromate of potassium solution, through the yellow vapor of a sodium flame, or through ruby-red glass; another very important and complex manifestation of the effects due to light is seen in the movements of the chlorophyll corpuscles.

Light acts as a stimulus to animal and plant protoplasm. It induces characteristic changes of form in individual cells and

causes movements in fixed directions in free-living unicellular organisms.

I have discovered, by experiment and practice, the special and specific efficacy in the use of the combination of the calorific rays of the sun and the electric arc-light in stimulating the glands and cells of the body, the nervous system generally, and the secretive organs of man and animals. It, therefore, becomes a most important adjuvant element in the treatment of acute and chronic diseases, especially such as have become chronic, or result from derangement of secretive, perspiratory or glandular functions, as it vitalizes and gives renewed activity and force to the vital currents that keep the health unimpaired or restore them when disordered or deranged.

#### SOME STUDIES OF THE INFLUENCE OF THE ELECTRIC ARC-LIGHT UPON GREENHOUSE PLANTS.

At the agricultural experimental station of Cornell University in the winter of 1889 and '90, some experiments on an extensive scale were carried out to determine what influence the ordinary electric arc-light exerts upon plants in greenhouses. Much has been said among gardeners concerning supposed retarding or accelerating influences of the arc-light upon plants. Many have supposed that the electric light can be introduced profitably into greenhouses for the purpose of hastening growth. The general opinions varied on this subject until these experiments and those by the Horticultural Department of Washington settled some of the most important points in connection therewith.

The first experiment to determine the influence of electric light upon vegetation was made by Herve Mangon in 1861.<sup>1</sup> This experiment showed that the electric

light can cause the production of chlorophyll, or green color to plants, and also, that the light can produce heliotropism, or the phenomenon of turning or bending towards the light.

In 1869, Prillieux<sup>2</sup> showed that the electric light in common with other artificial lights, is capable of promoting assimilation, or the decomposition of carbon dioxide in water. The next experiments appear to have been those of C. W. Siemens, in England, and P. P. Deherain, in France. These two, with those of Cornell and the Washington Horticultural Department appear to be the only definite investigations of this subject.

The English experiments, although eminently practical, were conducted by an electrician, and the French were largely confined to physiological problems. It seemed proper that the third series of experiments should be approached from the particular standpoint of the gardener.

Dr. Siemens' experiments may be divided into two series: In one series the lamp was placed inside the greenhouse, and in the other suspended over it. In both cases he observed marked effects upon vegetation in a short time.<sup>3</sup>

A great variety of plants were treated. The dynamo which Siemens used in his first experiment "makes 1,000 revolutions a minute; it takes two horse-power to drive it, and develops a current of 25 to 27 meters, of an intensity of 70 volts". The light produced is equal to 1,400 candles measured photometrically.

When the lamp was placed inside the house, plants within three or four feet of it suffered much, the leaves of the melons and cucumbers "which were directly opposite the light turning at the edges and presenting a scorched appearance". When these injured plants were removed to a

<sup>1</sup>Compt., Rend. 53, 243.

<sup>2</sup>Compt., Rend. 69, 410.

<sup>3</sup>Proc. Royal Soc., XXX, 210 and 293. Rep. British A. A. S., 1881, 474. See also abstract in "Nature," XXI, March 11, 1880, and an editorial in the same issue.

distance of seven or eight feet, they showed "signs of recovery, throwing out fresh leaves, with pearls of moisture at their edges". In general, plants which were exposed to normal conditions during the day and six hours of electric light at night far surpassed the others in darkness of green and vigorous appearance generally". The flavor was fully as good in the electric fruits as in the others. The results were supplemented by larger experiment in the winter of 1880 and 1881.

In this case a lamp of 4,000 candle-power was used, and it was placed inside a house of 2,318 cubic feet capacity. The light was run all night, and the arc was at first not protected by a globe. The results were anything but satisfactory, the plants soon becoming withered. At this point a globe of clear glass was placed upon the lamp and thereafter the most satisfactory results were obtained. Peas, raspberries, grapes, melons, and bananas fruited early and abundantly under continuous light—solar light by day and electric by night.

The strawberries are said to have been of "excellent flavor and color" and the grapes "of stronger flavor than usual". The bananas were "pronounced by competent judges unsurpassed in flavor", and the melons were "remarkable for size and aromatic flavor". Wheat, barley, and oats grew so rapidly that they fell to the ground of their own weight. The beneficial influence of the clear glass globe was therefore most marked. The effect of interposing a mere sheet of thin glass between the plants and the source of the electric light was most striking. On placing such a sheet of clear glass so as to intercept the rays of electric light from a portion only of a plant—for instance, a tomato plant—it was most distinctly shown upon the leaves. The portion of the plant under the direct influence of the

naked electric light, though a distance from it of nine or ten feet,<sup>1</sup> was shrivelled, whereas that portion under cover of the clear glass continued to show a healthy appearance, and this line of demarkation was distinctly visible on individual leaves; not only the leaves but the young stems of the plant soon showed signs of destruction when exposed to the naked electric light, and those destructive influences were preceptible, though in a less marked degree, at a distance of twenty feet from the source of light.

In other series of experiments Siemens placed an electric lamp of 1,400 candle-power about seven feet above a sunken melon pit which was covered with glass. The light was modified by a clear glass globe. In the pit, seeds and plants of mustard, carrots, turnips, beans, cucumbers and melons were placed. The light ran six hours each night and the plants had sunlight during the day. In all cases those plants "exposed to both sources of light showed a decided superiority in vigor over all others, and the green of the leaf was of a dark rich hue". Heliotropism was observed in young mustard plants. Electric light appeared to be about half as effective as daylight. A great difficulty experienced in this experiment was the films of moisture which condenses on greenhouse roofs at night and obstructs the passage of light. The light was at one time suspended over two parallel pits nearly four feet apart, and the effect was observed upon plants under the glass and in the uncovered space. In all cases the growth of the plants was hastened. Flowering was hastened in melons and other plants under the glass. Strawberries which were just setting fruit were put into one of the pits, and part of them were kept dark at night, while the others were exposed to the light. After fourteen days, the light having burned twelve

<sup>1</sup>It is to be observed that the light used by Dr. Siemens in this case was 4,000 candle power.



nights, most of the fruits on the lighted plants "had attained to ripeness and presented a rich coloring, while the fruit on those plants that had been exposed to daylight only, had by this time scarcely begun to show even a sign of redness". He concludes that a lamp of 1,400 candle-power produced a maximum beneficial result at a distance of three meters (nearly 10 feet) above the glass, but "the effect is nevertheless very marked upon plants at a greater distance".

At the close of his experiments Siemens was sanguine that the electric light can be profitably employed in horticulture, and he used the term "electro-horticulture" to designate this new application of electric energy. He anticipated that in the future "the horticulturist will have the means of making himself practically independent of solar light for producing a high quality of fruit at all seasons of the year".

He has shown that growth can be hastened by the addition of electric light to daylight, that injury does not necessarily follow continuous light throughout the twenty-four hours, that electric light often deepens the green of leaves and the tints of flowers, and sometimes intensifies flavors, and that it aids to produce good seeds; and he thought that the addition of the electric light enabled plants to bear a higher temperature in the greenhouses than they otherwise could. But whatever may be the value of electric light to horticulture, the practical value of Siemens' experiments is still great. They have furnished data in several obscure relations of light to vegetation. *Nature* made the following comments upon this feature of the application of the electric light by Dr. Siemens: "But the scientific interest of its present application must rest mainly on the fact that the cycle of the transformation of energy engaged in plant life is now complete and that we can run through the changes from heat to

electricity and thence to light, which now we know we can store up in vegetable fuel again."

Deherain's experiments were conducted at the *Exposition d'Electricite*, Paris, in 1889. A small conservatory standing inside the exposition building was divided into two compartments. One compartment was darkened and the glass painted white upon the inside; this received the electric light and all solar light was excluded. The other compartment was not changed. The amount of sunlight which the plants normally received in this conservatory within an exposition was not sufficient to maintain a healthy growth. A lamp of 2,000 nominal candle-power was used. At first the naked electric light was used and it ran continuously. Barley in head and flax in flower were brought into the lighted compartment; also chrysanthemums, pelargoniums, roses and a variety of ornamental plants. After seven days of continuous electric lighting most of the plants were seriously injured.

All the pelargoniums lost their leaves, cannas were discolored, four-o'clocks were tarnished and bamboos were blackened. "But the most curious effect was produced upon the lilacs; all the parts of the leaves that had received the direct rays from the lamp were blackened, while those protected by the upper leaves preserved their beautiful green color, and the impression produced upon the epidermis by the electric rays had the clearness of a photographic plate." Similar effects were produced upon azaleas, dentzias, and chrysanthemums. It was found that this discoloration did not extend beyond the first layer of palisade cells. Plants which received solar light by day and electric light at night were injured in the same manner, but only in a less degree. The injury was most marked upon the old leaves. The pelargoniums soon sent out new shoots and the young leaves resisted

the action of the light much longer than did the mature ones. The flax continued to grow and the barley ripened. It was found that plants under the electric light alone were able to assimilate, but the action was very slow. As much assimilation took place in an hour on a bright summer day as in several days of electric light. At the expiration of two weeks the condition of the plants was so bad that a change was made, and thereafter a globe was used upon the lamp.

The experiment with modified light by use of a transparent glass globe was conducted like the preceding. Sprouting seeds in electric light alone grew for a short time, then drooped and died, not being able to make true leaves. Sprouting maize turned black, but maize in full growth remained in apparently good condition, though not growing even for two months. New leaves appeared on roses and other plants, but growth was slow or none. Flowers did not appear, and seeds did not mature in previously formed fruits, except in the case of barley, which made good seeds. New growths appeared at the base of some plants, and the petioles of pelargoniums became very much elongated. Many plants remained almost stationary throughout. Assimilation was more feeble than under the naked light. Plants which had been set out of doors during the day and brought into the electric light house at night did not behave any better, if as well, than those left out of doors continuously.

Deherain's account was replete with interesting speculations upon the physiology of the plants under experiment. His general conclusions of the influence of electric light upon plants are as follows:

1. The electric light from lamps contains rays harmful to vegetation.

2. The greater part of the injurious rays is modified by a transparent glass.

3. The electric light contains enough rays to maintain full-grown plants two and a half months.

4. The light is too weak to enable sprouting seeds to prosper or to bring adult plants to maturity.

Finally, observations were made more recently upon the influence of the electric light upon plants in the winter palace at St. Petersburg. It was observed that in a single night ornamental plants turned yellow and then lost their leaves. Yet it is well known that incandescent lamps can be lodged in the corolla of a flower without injuring it.

I refer you to the literature for fuller information than it is here my privilege to give.<sup>1</sup>

I however cite a few points which are clear:—"The electric light promotes assimilation, it often hastens growth and, naturally, it is capable of producing natural flowers and colors in fruits; it often intensifies colors of flowers, and sometimes increases the production of flowers. The experiments show that periods of darkness are not necessary to the growth and development of plants. There is every reason, therefore, to suppose that the electric light can be profitably used in growing of plants.

"The experiments suggest many physiological speculations upon which it is not the province of the bulletin to enter, yet two or three of them may be mentioned. It is a common notion that plants need rest at night, but this is not true, in the sense in which animals need rest. Plants have simply adapted themselves to the conditions of attending daylight and darkness, and during the day they assimilate or make their food, and during the night when, perforce, assimilation must

<sup>1</sup>Cornell University Agricultural Experiment Station Bulletin, 30, August, 1891; *Electro-Horticulture Bulletin*, 42, Sept., 1892; Hatch, *Experimental Station of Massachusetts Agricultural College Bulletin*, 23, Dec., 1893.

cease, they use the food in growth. They simply practice an individual division of labor. There is no inherent reason why plants cannot grow in full light, and in fact, it is well known that they do grow then, although the greater part of growth is usually performed at night. If light is continuous, they simply grow more or less continuously, as conditions require, as they do in the long days of the arctic regions, or as our plants did under continuous light. There is no such thing as a plant becoming worn out or tired out because of the stimulating influence of continuous light.

"It would seem, therefore, that if the electric light enables plants to assimilate during the night and does not interfere with growth, it must produce plants of great size and marked precocity. But there are other conditions, not yet understood, which must be studied."

Hundreds of these exemplary facts upon the action of light rays in connection with chemistry, physio-chemistry, physiology and photo-therapeutics are known to us. The facts that I have cited here and there must suffice to give one an idea, at least, of the power that light exerts upon matter.

#### ELECTRIC ARC CROMOLUMES FOR GENERATING VIOLET RAYS OF LIGHT AS AN ADJUNCT TO THE TREATMENT OF TUBERCULOSIS.

In 1896 I published in the *New York Medical Journal* some important remarks upon this subject, and since then have made many important chemical and physiological tests as to the power of light in therapeutics. Tuberculosis interested me mostly, so I dropped from my list of researches many experiments which belong to other domains of medicine.

My specially constructed electric arc-light lamps for generating violet rays of light (color light or chemical rays) have undergone many changes since my early

experiments. I found that concentration of light would mean a great factor in the development of this principle and therefore more generating power was a necessity. This gave these parallel rays much more penetrating capacity for dense tissues; I therefore reconstructed my older models, and now use the apparatus as illustrated. Next came the question of simplicity of construction and management. I have succeeded in this undertaking after many trials.

These illustrations show several types used by me in my daily clinical practice which have proved most satisfactory as to results. These types of lamps are capable of generating rays of the highest quality, besides having the power of penetration.

I showed that concentrated rays of light as produced from an electric arc lamp of high power pass through the solid tissues as well as through bone, by allowing these rays to fall directly upon the chest-wall and, as a proof of this fact, printing from a negative plate or film upon a sensitive plate, and subject matter thereon, in less than fifteen minutes. This test, as I say, has again been confirmed by Dr. J. W. Kime, of Fort Dodge, and he differs in the method employed by me by using concentrated sunlight, instead of the electric arc.

As far as my clinical record goes, I can say here, that I have employed these colored rays of light as an adjunct to the general treatment of tuberculosis of the lungs with the most successful issue in sixty cases. I find that electro-arc solarization can claim for itself a rank as one of the greatest tonics and bacterial destroyers. There are many scientific facts regarding the chemical and physiological action upon the system which need study. Still, several which I have already studied and made use of, seem to fill the long-felt want in the treatment of this disease.

Of these sixty cases, I can report forty cured, and in twenty the disease was ar-

rested to such an extent as the pathological changes present when they came under treatment would admit. I now fully believe from my experience that, as an adjunct, light rays play a leading role in the treatment of tuberculosis. I want to stand upon these remarks for a future record.

The administration of these rays must be understood from the very first. Dosage, and how given, plays an important part, and no one should attempt to use them homeopathically. Long exposure is one of the prime rules—nothing less than a half-hour over the nude surface of the selected areas; however, a longer time is preferable for each sitting.

A simple description of these electro-arc generators of the chrom-rays, and the method of employing them is essential. I gave these lamps the name of *electro-arc chromolumes*, as they are the sole producers of these specific colored rays. Their construction is so simple that their management does not require any study. They are all capable of giving from 2,000 to 20,000 candle-power or more. This high candle-power or efficiency is dependent upon the amount of current at one's disposal. There is no difficulty in getting any amount of electric current for their operation. All that is necessary is to have the room wired with an exact thickness of carrying efficiency, and then to have a transformer of exact size—which any company is always ready to furnish on application.

My own plant is furnished with a 40 amperes current transformer and the lamps are so constructed that more or less current does not affect them. By this arrangement any one can change his installation according to his work.

Each lamp for generating these chemical rays has fitted to it one rheostat, and therefore, more than one generating lamp can be set in operation at the same time, and in the same room or elsewhere. Also

they can be installed to operate on a single rheostat in such a manner that any special lamp may be selected where there are more than one in use. There are several different types of my lamps now on the market and they are made suitable to the different electric currents, for the high tension and the low tension (the alternating or the Edison direct current), as this was a most necessary point to be considered. For the high tension current, I constructed a lamp which operates both automatically and as hand-fed. This lamp, in order to get a steady and pure light spot, is provided with a concave mirror, and a moving gear for adjusting the focal lines—a most important device, this adjustment, as the focal parallel lines can be changed to the exact spot wanted. The focal spot ranges from  $3\frac{1}{2}$  inches to  $17\frac{1}{4}$  inches of concentration. By this means any part of the pulmonary apex or other portion of the anatomy can be treated accordingly. For the low tension (Edison direct current), the lamps are different. The focal lines are created by a Mangin's mirror on the principle of the search-light, and have the same advantages as the other lamps.

A screen and hood, carrying a shutter on the front of the lamp, for cutting down the size of the light spot to be used, according to the area to be covered with the light rays, accompanies every electro-arc chromolume. This screen is a piece of additional apparatus and is for the purpose of screening the heat rays emitted during the operation of the lamp upon a selected surface with a high concentration of the light-beam, for any length of time. It consists of blue glass, cut in strips, set in a framework, on a movable stand, capable of many changes of position.

All these generating lamps are mounted on stands which give any angle of motion suitable for application. The entire lamp, screen, etc., can be removed over any area

of the operating chamber. They have long cables attached to the lamps, coming from the electric feeder of the installation. I have used several of these types and each one has its own particular value.

The new types which I illustrate are adaptable for all purposes; one can get a concentrated beam from one-half to thirty or more inches. These illustrations speak for themselves. I present a photo by way of illustration, of the chromolume in full operation, taken from my earliest experimental work in 1894. This gives

the lamp is often blamed when fault lies with the carbons. These lamps have horizontal feed carbons; the positive is in the front holder with its point facing the mirror.

As before stated, it is necessary to see that the positive current flows to the positive or front carbon. Clamp in securely the long cored positive carbon and the short solid negative, so that the meeting point is the focus of the mirror; this varies according to the diameter of the mirror; the distance, approximately, is given in the following table. See that the car-

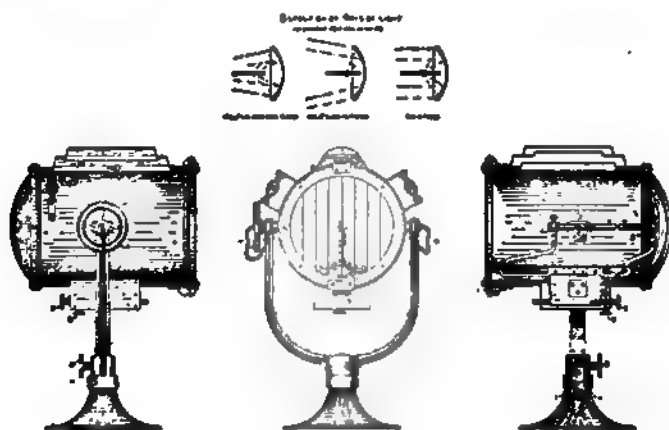


Fig. 20. Diagram of the Electro-Arc Chromolume showing the details of its working.

an idea how the light is applied to tuberculous patients.

#### GENERAL INFORMATION ON THE MANAGEMENT OF THE ELECTRO-ARC CHROMOLUME.

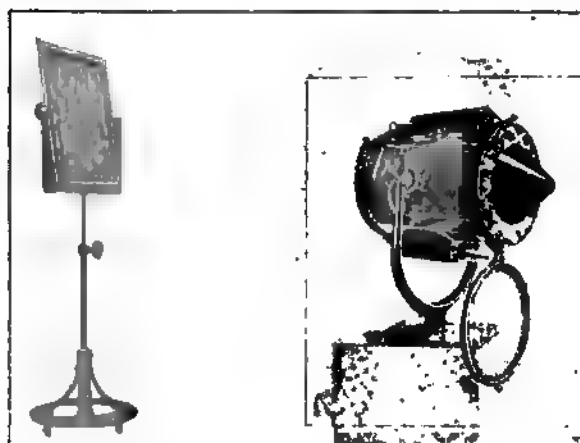
In focusing the lamps it is most important to note that the upper carbon is positive, and in connecting the lamps the positive current must flow to the upper carbon. The positive carbon is cored 12 inches long and negative solid 7 inches long; in these lamps the carbons burn in this proportion and thus keep exact focus. When 30 to 35 amperes is used the carbons should be of  $\frac{5}{8}$  diameter. Good carbons are necessary for good light, and

bons line up straight. The lamp-box is on a movable carriage, the hand-wheel at the rear of the lamp-case moves the lamp either nearer or farther from the mirror. If the lamp is too far forward the beam will have a dark center; by drawing the lamp closer to the mirror this will disappear and the beam will be clear and round and the rays of light entirely parallel. The mirror projectors are fitted with attachment to feed the carbons by hand if occasion should require. The arc lamp burns at 45-48 volts. The lamp is perfectly steady on the low voltage of 50 direct incandescent circuit, but the rheostat supplied with the projector is regulated to any voltage as given.

TABLE OF THE DIFFERENT SIZES OF LAMPS  
AND CANDLE POWER.

Diameter of Mirror, Inches	Amperes	Diameter Carbons		Candle Power at the Arc	Candle Power Projected	Focal Length, Inches
		F	N			
7	10	1-2	7-16	3000	8000	3 1/4
9	15	3-16	1-2	8000	12000	4 1/4
12	25	5-8	9-16	5'00	20000	7
16	40	11-16	5-8	7'00	32000	9
20	60	3-4	5-8	12000	48000	10
24	80	7-8	3-4	16000	64000	12 1/2
36	100	1 1-8	1	20000	80000	17 1/2

certain conditions become, so to say, stationary. Each case, however, is taken upon its own merits and treated accordingly; only such promises can be made to a patient as the existing pathological conditions will permit. There are, however, forms of tuberculosis which can be thoroughly cured, and a large majority, if they present themselves at an early stage, are curable by this adjunct treatment within from two to three months.

Fig. 19. The Screen  
with Blue Glass.Fig. 18. The Electro-Arc  
Chromolume.

Let me say, in concluding this short article on my chromolume, to those who will follow up this method of photo-therapeutics as an adjunct to the treatment that they will be most amply paid for the trial. With light rays, hygienic food, fresh air, exercise and such suitable remedies as are indicated according to the case in hand, 75 per cent of the tuberculous patients are curable; that is, curable to a certain extent, according to the lesions or pathological changes already present at the time the case comes under treatment.

Of course we all understand that pathological conditions which have in certain stages of this disease left their markings, cannot be changed. We cannot give the patient any more breathing capacity after

One important factor must always be remembered in this method, that much time should be allotted to each case—no less than an hourly sitting daily. This photo-therapy is most admirably adaptable for sanitarium and hospital purposes. For years I have adopted a system of generating these colored rays of light. Where practical I have advocated the construction of solaria; these of course are more suitable to country than city use; also in a climate where the sunshine is in abundance.

The solaria must be constructed on plans which provide for all contingencies, and the important necessities, heating, ventilating, cooling, glazing by colored glass intermixed with white glass, proper exposure, etc., are some of the principles





Fig. 21. Chromo Ray Solarium.



Fig. 22. Chromo Ray Solarium.



embodied in their successful employment. Also proper exposure of the patient plays an important part in the treatment. The entire body should be exposed to this light for at least two hours or more daily.

I regret that my plan to publish in this journal a complete treatise in sections on

light from many important sides of the question, which it was my intention, failed. Nevertheless, I have tried in the space allotted me to give its readers sufficient of the subject matter that I may hope to stimulate more serious thought about light and its effects.



Solarium for Treatment of Patients with Light.

#### PRESIDENT FINNEY'S ADDRESS

TO THE COLORADO STATE MEDICAL SOCIETY, COLORADO SPRINGS,  
OCTOBER 5, 1905

*Ladies and Gentlemen and Members of  
the Colorado State Medical Society:*

At this, the close of the thirty-fifth annual session, it becomes my duty and high privilege to address you.

Here, under the shadow of Pike's Peak, the "mascot" of this beautiful city, such privilege becomes doubly precious: the place, the surroundings, the very atmosphere are an inspiration.

In presenting to you my address to-day

I have chosen to touch upon a variety of subjects of vital interest to us, in our every-day professional life, rather than upon some abstruse subject which might be of moment only as a means of theoretical discussion.

Thanks to our various committees and the loyal rank and file, we have enjoyed a delightful and profitable meeting. The papers and discussions have been quite up to, if not above the average of any

previous meeting of this society. This is as it should be. Our profession, crowned with the vast and marvelous achievements of the century that has just passed into history, demands of the physician of to-day that he be a man worthy of the past, prophetic of the future—a man with a grand combination of heart, conscience and brain.

To build up such a profession in Colorado must be our earnest and constant endeavor. To do so we must begin at the fountain head—the *education of the individual*. One of our most honored members read a paper, "Legislation versus Education," at our last year's session, in which he very justly took our profession to task for neglecting the education of the masses in matters of health and hygiene. Let us see to it that we have a fully equipped and thoroughly educated profession, and at the same time devote our best talents to the education of the masses in all matters of sanitation and health—both public and private.

To accomplish this in the most practical way we should begin with our public schools. Preventive medicine and hygiene should have its first application in the school room. Here our future generations of men and women get their first and lasting impressions, and here, then, these lessons should be first taught. In consideration of the enormous annual loss to the government and to society through disease, it is self-evident that it is the duty of the government to protect its people from the peril of preventable disease.

Our local and state boards of health should have enlarged and absolute powers in this direction. They should have the power to enforce medical supervision of all public schools, not only in times of epidemic diseases, but at all times. The old saw about an ounce of prevention, etc., applies here. A national board of school hygiene, with state and local boards, has been suggested, but I fancy

the machinery we already have, in our state and local boards of health, if given the authority and put in motion, would accomplish the desired results.

Health officers should be chosen on merit, rather than because of political affiliation or because they need the work. They should be men who will do their work, regardless of opposition which is so frequently in evidence and which is generally due to ignorance. In many places school physicians have been appointed to have general sanitary supervision of the public schools. The wisdom of having such supervision is obvious. His authority should extend to a right to make examinations at stated times of all school children, segregate those afflicted with infectious diseases, advise as to errors of refraction and as to disposition of weak and poorly developed children who are really injured by confinement to school. He should be preferably a man of some years' experience rather than a novice.

To better our professional condition there is no more potent factor than the *county medical society*. Every county in the state should have a good, live, working society. Here lies the secret of a vigorous and successful state society. We have, in Colorado, been fortunate in having for members of our state society some who have had experience in Pennsylvania and other eastern states where the plan of organization which we are now following has been thoroughly tried and where it has proven so successful. Let us foster our county organizations above all else.

"The tendency of the age seems well-nigh world-wide for isolated groups of the community—trades, professions, etc.,—to adopt for the common good of their membership certain methods of communal activity. The unanimity with which the medical profession seized the opportunity to reorganize on a basis effective for the

general good of physicians and the commonwealth is an illustration in point. It is fortunate that the adopted mode of organization affords through the autonomy of the county society so full opportunity for varied experiments in medical socialism. Some societies are doing little or nothing in this direction; others are taking very advanced ground and are working out some theoretical and practical problems of exceedingly great interest."

My appeal to every member within the sound of my voice is: go home and take up personally the work of your county society, and make *your* society a success. By doing so I am sure you will come back to the meeting of the state society *next* year with renewed interest and a broader and better outlook for yourself and a friendlier feeling for your neighbor and fellow practitioner.

To be successful the county society must have its regular meeting, say once each month. A regular program should be arranged at the beginning of the year, and each member supplied with a copy of it, so that each one shall know in advance what is coming up at the next meeting. Then as many as can possibly do so should attend the meetings regularly. The success of a society should not, and does not, depend on any one or two individual members, but on the rank and file, and I may add, on the secretary, for on him falls the drudgery of notices to members, correspondence with state officers, etc., etc. Subjects chosen for papers and discussions should be fittingly assigned to those members who will give them their best endeavor. Have live subjects for papers and discussions and then give the society a few minutes of your time each month and you will have a live and vigorous society. We have tried it in Otero county and have made a success of it. "Go thou and do likewise."

Under this head I think it is proper to

discuss the question of fees for examination for life insurance. Some of the old line companies have cut the fee from \$5 to \$3 where the amount of insurance applied for is less than \$3,000. The same amount of time and the same painstaking and thorough examination is required in the examination of an applicant for \$1,000 as for \$5,000 of insurance, and the minimum fee charged for such service should be \$5.00. To take less will only result in cheapening professional standing, and a still greater cut in the fee in the near future. Our county societies should take a bold and firm stand in this matter and give all insurance companies to understand that if they want first-class work they must at least pay a reasonable fee for it. Surely the great companies that pay such princely salaries to their high officials can afford to spend a reasonable amount for the protection in the medical examination of their risks. The state society should back up the county societies in this matter and the weight of its disapproval should be added to the individual protests which have gone in against this cut in fees.

Our state medical journal "*Colorado Medicine*," and its editor and his associates, deserve hearty commendation for the help and encouragement they have given the county societies, and for the many timely subjects taken up and discussed in the columns of the journal during the past year. The question of our society owning and publishing its own journal successfully is settled, and is no longer an experiment. It occurs to me, however, that the journal could be enlarged and improved and the cost to the society lessened by accepting legitimate and proper advertising. I believe everything of a questionable character in the way of advertisements should be rigidly excluded from our journal. I believe we should encourage a crusade against patent medicines, especially those containing

large quantities of alcohol. The National Congress should pass a law making it obligatory to have the formula printed on all patent and proprietary medicines. The profession should certainly avoid using and prescribing pharmaceutical preparations the exact constituents and quantities of which they are ignorant. To do otherwise is simply to be used as a cat's-paw by designing pharmaceutical manufacturers.

The question of *medical education* is one of such vast proportions that I can in my limited time but touch upon the particular phase of this question that is paramount at the present time, viz.: its relation to reciprocity between the states. I am quite sure that I voice the sentiment of a vast majority of the profession when I say that reciprocity in the matter of license to practice *should* exist between all the states of the Union. That this happy and ideal condition cannot be realized at once under existing conditions is obvious. We can, however, better the existing conditions. We can set our standard high and work upward to that standard and in time by patient and persistent effort reach the desired end. The stumbling-block in this matter of medical reciprocity has been the heterogeneous conditions existing in the different states and the difficulty of getting one standard upon which all may agree. The outlook for a solution to this problem through the efforts of the Council on Medical Education of the American Medical Association, seems about to be realized. I quote from the address of the president of the council at its meeting held in Chicago, April 20, 1905:

"What would be regarded as a perfectly satisfactory state of affairs for medical education, we might say ideal state of affairs, from our present view-point? Such medical education must be equal to that required by England and Germany. It would comprise:

"1. A preliminary education such as would enable the student to enter our standard universities, with an average age of about 18; the passing of this preliminary education by the state authorities.

"2. Five years of medical work, the first year to include physics, chemistry and biology. This year to be taken either in a medical school or in a college of liberal arts; and the last year of the medical course to be so arranged as to bring the student in actual contact with patients at the bedside.

"3. A diploma from a medical school in good standing, this being evidence that the student has completed his work and passed examinations satisfactory to the medical school; and, further, that the medical school, as shown on investigation either by the state board or by the Council on Medical Education of the American Medical Association, or both, is doing the kind of work which entitles it to recognition.

"4. This diploma should be accepted as evidence entitling the holder to take an examination before his state board. And, on passing such examination, which should be so conducted as to test in the most thorough way the candidate's knowledge, he should be entitled to practice.

"5. Essentially the same state of affairs medical should exist in all states and territories, and the license to practice conferred by one state should be recognized by all.

"In view of the rapid progress made within the last twenty years, it would seem reasonable to believe that within another period of twenty years we shall find medical education in this country advanced to the condition which we have outlined. However, in order to accomplish such results, much must be done, and all the agencies which can assist must co-operate toward the desired end; the advancement cannot take place all at once, but one step

at a time. There are many practical obstacles which must be overcome."

Hence, we see, the best men in the profession set the standard high. The trouble, however, is not so much in the standard of professional education as in the preparation therefor. The young man who is to take up the profession of medicine, should first have a thorough preliminary education, such as is offered by our colleges and universities. Our American life with its mad rush for the almighty dollar, is to blame for the hurry in the preparation for professional education as in every other calling in our business and professional life. The signs of the times, however, point to better things.

If the rank and file of the profession in America are ready for this high standard, and will insist upon it, it will be but a short time until we will realize practical reciprocity between the licensing boards of the various states of the Union.

#### MEDICAL LEGISLATION.

During the year we have succeeded in securing the enactment of a new medical law. The success of those in charge of this matter meets with the hearty approbation of every loyal member of the profession. The good work was pushed to a happy conclusion by our own legislative committee and the legislative league, and unlike previous efforts, this enactment succeeded in securing the signature of the Governor and became a law. It will be well for us to prepare for a vigorous defense of this law, as it will doubtless be attacked by its enemies at the next meeting of the legislature.

While the law is not perfect it has many good points and on the whole is one of the best state laws in the land. With a fair administration it will do much good for the people and the profession.

The State Examining Board should have the hearty support of every member of the profession, in order that we may

derive the largest amount of good from the new law. We should see to it that the best timber available shall be put into the State Board and then give the board united support. Our committee has had a hard and almost thankless task in securing this legislation; the Secretary of the State Board has worked in season and out of season for the good of the profession, and deserves our hearty support and commendation.

Before closing I desire to touch upon one more subject, briefly, viz.:

#### THE PREVENTION OF TUBERCULOSIS.

This is a hackneyed subject, but one of *vital* interest to our profession and to all the people of our commonwealth. We have the climate "par excellence" for tubercular patients. Thousands of those suffering from this dread scourge visit us annually. We then, above all other states, should see to it that the most approved and best methods of prevention known to science shall be enforced.

The plan I would suggest would be to concentrate the efforts of the State Board of Health and the State Medical Society, together with the various component county societies, in devising ways and means to the end desired. We should have a state sanitarium where researches can be conducted and patients treated. Branches of this sanitarium with accommodations for out-door tent life should be established and maintained. A vigorous policy of education of the masses in giving information along the line of *prevention* should be encouraged by the society and its individual members. Colorado, instead of following, should be in the *lead* in all matters pertaining to tuberculosis, not only in its cure through our invigorating air and God-given sunshine, but in devising ways and means for its prevention.

Laws are of no avail without the co-operation of the people, and you cannot

secure this co-operation unless you have an intelligent public sentiment developed. This can only be secured by a well-directed educational propaganda.

In closing permit me to express my

grateful appreciation of the honor conferred upon me in placing me in this exalted position and to thank you and the members of the various committees for loyal support and co-operation.

#### Opposed to Quarantine.

A discussion at the International Sanitary Convention of the American Republics, held in Washington recently, developed the fact that many of the delegates did not believe in the system of quarantine now prevailing. In many cases it was stated it goes too far; and not only does a great deal of damage to the commercial interests of different countries, but also does not have the result wished for by preventing the spread of the disease.

#### A New Mosquito Killer.

It has been announced by Dr. J. H. White, United States Marine Hospital Surgeon in Charge in New Orleans, that the new mosquito exterminator known as "Culicide," discovered by Dr. Mims, chemist for the City Board of Health, will be adopted by the government. Dr. White announced that the disinfectant is composed of equal parts of carbolic acid and gum camphor. He has advised strongly against amateur use of the composition owing to its explosive character. None but skilled employes of the United States Marine Hospital Service will be permitted to use it.

Dr. A. P. Ohlmacher, recently of Gallipolis, O., has been appointed director of the Biologic Laboratories of Frederick Stearns & Co., of Detroit, and has entered upon the duties of that position, which are chiefly those of original research in biologic therapeutics. Medical men familiar with the literature of pathology, bacteriology and serum therapy in America, know Dr. Ohlmacher as a pioneer investigator in these branches of science. He was one of the first bacteriologists in this country to immunize a horse against diphtheria, and to produce a serum of clinical value. His work attracted widespread attention, and it is significant that his papers published in 1894 on the preparation, uses and value of antidiphtheric serum still stand as authoritative utterances on the subject. This work was purely scientific, carried out on an extensive experimental scale, both in the laboratory and at the bed-

side, and antedated the commercial production of antitoxin in America. As a teacher and author Dr. Ohlmacher is equally well known in the profession, and the fact that he is to have entire charge of the important biologic interests of the Stearns house gives additional assurance—if they were needed—of the liberal attitude of that institution towards the scientific work which is the pride and glory of American medicine.

#### Marine Hospitals Costly.

It has been decided by Secretary of the Treasury Shaw to discontinue for the present the work on the building of a \$125,000 marine hospital at Pittsburg. This action is in line with the recommendation Secretary Shaw will make to Congress at its coming session for the abolishment of all the marine hospitals of the United States. It was pointed out that there would be, on an average, only about six patients to be cared for each day in that institution. These patients, it was shown, could be cared for in the local hospitals in Pittsburg at the small expense of 94 cents a day.

#### International Sanitary Convention Accepts Paris Articles.

A great step toward the prevention of contagious diseases was taken when the members of the International Sanitary Convention accepted the 49 articles of the Paris convention of December 3, 1903, with only a few modifications required by the conditions in tropic countries. When signed by the delegates and ratified by the different governments, there will be on the American continent a system of quarantine and preventive measures. This is calculated to put an end to the evil of good work being undone by the negligent methods in a neighboring state.—American Medicine.

When operating for empyema thoracis it is a good rule to aspirate again when the pleura is exposed and before it is incised. This may save some embarrassment.—American Journal of Surgery.

# The Colorado Medical Journal

AND WESTERN MEDICAL AND SURGICAL GAZETTE

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## EDITORIAL COMMENT

### MEETING OF THE STATE SOCIETY

The thirty-fifth Annual Convention of the Colorado State Medical Society has come and gone. It will long remain a bright spot in the memory of many. The meeting was a decided success. The Denver contingent was especially outspoken in praise of the rare, good time had. Meeting out of town allowed the Denverites to attend without being interrupted with their practice, and the outside physician did not have to shop. While the scientific program was not above that of former years, it brought out the fact that the society should be proud of the ability of the physicians and surgeons throughout the state.

The members of the Colorado Springs committee did themselves proud, and if any were suffering from poor circulation it was not evident. Dr. E. R. Neepër and Dr. S. E. Solly of course had the heavy parts, and are entitled to great praise for their able handling of such a difficult task, though it was evident that these gentlemen had the backing of a good committee.

Dr. Solly has been referred to as the "old war-horse" of the profession, but it is doubtful if a four-year-old could have done more or better work. The song, "Oh! Dr. Solly", sung at the banquet to the tune of "Mr. Dooley", and the feeling put into it by the singers, was an indication of the love and esteem in which the doctor is held by his confreres.

Dr. M. P. Reynolds did not have much to say, but he seemed to be sawing wood all the time. Drs. W. H. Swan, C. R. Arnold and D. P. Mayhew, as well as many others who might be mentioned, did loyal work for the success of the meeting.

Word has already reached Denver that

the local committee had a big card up its sleeve in its chairman, Dr. Neepër, whose hospitality, the rumor had it, corresponded with his length and breadth, but he surprised even those who knew him best. He was always in evidence wherever needed, ever with that perpetual smile of his—"the smile that won't come off". This smile of the doctor's is not his chief asset, however, and is only the reflex of the big and warm heart within—the kind that grows to such perfection down in old Clark county, Missouri.

The entertainment provided by the Colorado Springs M. D.'s was of a high order, yet was arranged so cleverly that it did not interfere with the work of the convention, unless one might consider the loss of sleep, which no one seemed to mind.

The banquet on Tuesday evening at the Antlers was the first on the program of entertainment and was most successful. Here, again, did the local committee, as well as the hotel management, prove their capabilities. In the banquet hall some fifteen or twenty round tables of the conventional family size were arranged about the room at convenient intervals, admitting of easy service and individual comfort. The social possibilities of the small tables proved most happy, and everyone was soon well acquainted with his brother M. D. across the way. When the sparkling ginger champagne, which has made Manitou and Colorado Springs famous, began to flow, then entered the spirit of Demosthenes, and oratory burst forth. Following in his wake came the shadows of the masters,—Apollo, Galen, Laennec, Harvey, Trousseau, Sydenham and Brehmer,—orating learnedly upon the various subjects assigned to them by

Toastmaster Æsculapius Solly. True to the promise made on the menu, "any other medical gent" who felt like it was given an opportunity to "butt in", no matter whether he desired to sing or read his lines. On the right of the toastmaster sat Doctor Ananias Hall, bubbling over with wit and good humor, looking like a prince at a court function, and what Doctor Æsculapius could not think of to "spring" upon the various "medical gents" present, his right-hand partner in crime certainly did.

The inimitable Doctor Black of Denver followed a neat talk by Doctor Black of Pueblo, and discoursed most scientifically upon the mysteries of the "Black Art".

Dr. M. P. Reynolds responded to the toast, "The Gods of the Garden", in his usual happy vein, after which Dr. Robert Levy explained the difference between "Altitudes and Latitudes". His remarks abounded in humor and sarcasm, notwithstanding it was rather late when he was called upon.

The scholarly Dr. Pershing's talk showed that "nerve" or brain was the cause of all things. Dr. Wetherill made a good hit as later events proved, and got even with the toastmaster, who had reversed the usual plan by allowing each speaker to find his response after he was upon his feet.

While the banquet was in progress the ladies were being taken care of at a theatre party, which was pronounced most enjoyable.

Wednesday afternoon Dr. Josephine L. Peavey, of 724 N. Tejon street, Colorado Springs, received the visiting ladies.

The liberality of the Colorado Springs Rapid Transit Street Car Company in furnishing a complimentary trolley ride to Manitou and other points of interest will doubtless furnish a good suggestion for our own Tramway company next year. It being so late on the program,

many of the members had left for their homes, but it was a pleasant diversion for those who remained.

Wednesday evening came the "Vaudeville Smoker", the joint creation of President Finney and the El Paso County Medical Society, given in the ball room of the Antlers hotel for the members and their ladies, where good cheer was dispensed until a late hour. The arrangements for the smoker were complete in every detail, and it was unanimously voted a big success.

While the outside members seem to be of the opinion that Denver is the only convention city—and it must be admitted that there are many good reasons for this belief—the wisdom of occasionally going outside was shown at the late meeting. The Denver physicians certainly enjoyed the freedom and relaxation from professional cares, which is possible by meeting away from Denver. It would certainly be difficult to find a more desirable meeting place than Colorado Springs, and she has set a pace for Denver next year that will be difficult to improve upon.

THE JOURNAL wishes to make one criticism upon the policy of the entertainment committee. This it would not care to make were it not for the possible effect it might have on future committees. Their plans should not be kept entirely to themselves until the last minute. The idea of the committee, of course, is to furnish a surprise. While this is very commendable, the fact is overlooked that anticipation is a much greater factor in pleasure than surprise. The feature, though, that is important, is that this procedure results in the failure of the ladies to attend. It is safe to say that most of the members would have been glad to have taken their ladies along, but as a woman cannot be checked like baggage or a baby, and as there is no way of knowing whether they are desired or not, they very naturally stay

at home. At Colorado Springs the committee had provided handsomely for them, though few were there to enjoy it.

Much interest centered around the election of officers, but as a whole, very satisfactory and representative selections were made, the honors going to the following:

#### THE NEW OFFICERS

President, H. G. Wetherill, of Denver.

First Vice-President, E. T. Boyd, of Leadville.

Second Vice-President, Perry Jaffa, of Trinidad.

Third Vice-President, C. A. Ringle, of Greeley.

Secretary, Melville Black, of Denver.

Treasurer, S. E. Solly, of Colorado Springs.

Delegate to American Medical Association, Hubert Work, of Pueblo; Alternate, H. R. Bull, of Grand Island.

Publication Committee—J. N. Hall, one year (to fill unexpired term of Dr. Solly); James M. Blaine, two years (to fill unexpired term of Dr. Edson); Edward Jackson, three-year term—all of Denver. [Dr. Blaine was later elected to the position of editor of *Colorado Medicine*, the journal of the state society.]

#### NOTES

President Frank Finney's handling of the arduous duties of presiding officer proved himself both capable and fair, and justified Toastmaster Solly's characterization of "a big man in a small town." Dr. Solly was mistaken, however, about La Junta being a small town.

The president's address was a clear-cut document, containing much of value. It appears in full elsewhere in *THE JOURNAL*. In the future, the address of the president will come earlier, which will be an improvement.

The papers of Drs. Bane and Foster,

and the demonstrations connected therewith, were features of the meeting, as were the stereopticon exhibition of skiagrams by Drs. Childs, Stover, and Solly.

The model tent erected on the hotel grounds by Dr. Solly proved of much interest to the members. *THE JOURNAL* will have an article touching on this tent in a forthcoming issue.

Some of the banqueters suggested a side order of ham and cabbage, but most were content to satisfy the inner man with the following menu:

Ganapé Russe  
Clear Green Turtle  
Hors D'Oeuvre  
Filet of Mountain Trout, Meuniere  
Noisette of Beef, Jardiniere  
Roast Squab, En Nid  
Salad Chiffonnade  
Ice Cream in Forms      Petits Fours  
Roquefort  
Cafe

There were many a small gathering during the week, where things medical were talked over, and some thought this alone sufficient recompense for the trip. At meetings such as that at Colorado Springs a brotherly feeling is created which time will not erase, and emphasizes the fact that the scientific gain is not the only feature of attending the sessions of the society.

Everyone seemed to have an enjoyable and profitable time, and went home with a feeling of sorrow for the other fellow who might have been there.

T. MITCHELL BURNS, M. D.

#### BEST MEETING SOCIETY EVER HELD

For the second time in three years it has been shown that a meeting of the State Medical Society may be successfully held outside of the city of Denver. The Colorado Springs meeting was more successful in some particulars than the

Pueblo meeting; and, indeed, better in some respects than many of the meetings in Denver have been. So far as these cities go, the experiment of holding sessions in other places than Denver may be said to be satisfactorily settled.

The attendance at Colorado Springs was good, both in numbers and in being representative of all parts of the state. The interest in the program, the business and political affairs, and the social side of things was more manifest than usual.

There has not been so large an attendance of members of the House of Delegates for many years, nor so much spirit shown in the settlement of the business brought before the body. Many important questions were considered, and certain precedents were established which cannot fail to promote harmony and unity in the future.

While there were contests, and even conflicts in choosing officers and committees, they were without animosity or personal feeling, and it may be possible that such friendly warfare is, after all, for the best.

The program was a good one and the discussions were for the most part spirited and pertinent. There were more papers than could be read and considered, and had not some of the authors failed to respond when called upon, the work could not have been completed. As it was some important papers had to be passed.

The Colorado Springs fellows made the social features of the meeting most attractive and memorable. The dinner was good, and dear old Daddy Solly surpassed himself as toastmaster. The musical feature of this occasion was happily conceived and executed, and the committee of arrangements must be congratulated upon this, as well as the smoker, trolley ride, etc.

Chairman E. R. Neeper was a host in himself, and it was worth a trip to Colorado Springs to see his genial smile. He

and his committee deserve great credit for the splendid way in which the entertainments were engineered.

President Finney proved himself an admirable executive officer, and much of the success of the occasion is due to his efforts.

Taken as a whole, it was one of the best meetings the society has ever held, and Denver will have to look to her laurels, for a new standard has been raised and the officers and committees of this year will have to work to keep the coming meeting up to the mark.

H. G. WETHERILL, M. D.

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#### INFLUENCE OF COUNTY SOCIETIES

The meeting of the Colorado State Medical Society at Colorado Springs shows the beginning effect and influence of the close affiliation of the state and county societies. The interest taken by the county societies in the above meeting was much in evidence. While Denver occupied a conspicuous position, it was far from being the "whole thing" as it has been at so many of our previous meetings.

The attendance of the Colorado Springs members was not what it should have been.

The gratifying feature was in seeing so many new faces, some of whom represented their respective societies, many of whom did not. They expressed themselves as well pleased with the meeting, and we feel sure they will be regular attendants hereafter.

The entertainment provided was unusually enjoyable, and simply went to show that which we already knew, that the Colorado Springs medical men are not to be outdone in that particular. The Antlers hotel management made every effort to see that those in attendance were shown all possible courtesy. Their ball room made a splendid place for the

meeting, and the banquet was superior to any we have attended for a long time.

The El Paso County Medical Society is to be congratulated upon having carried out so successfully this meeting of the state society. MELVILLE BLACK, M. D.

#### MORE DISCUSSION NEEDED

The meeting of the Colorado State Medical Society, held at Colorado Springs October 3, 4 and 5, 1905, was in every way a great success. The attendance was good, and the program, both scientific and otherwise, left nothing to be desired.

The papers presented at the sessions showed careful work on the part of the authors, and it is to be regretted that so many were allowed to go through with little or no discussion. After all, what is it that we who attend these meetings desire to hear? The papers we can read in the transactions, but the value of the discussions diminishes materially in print. Therefore, let us have a thorough threshing out of all ideas by those most capable. Do not leave the discussion of valuable papers on surgery or gynecology entirely to the general practitioner or nose and throat man. Be present when a paper upon a subject in which you are interested is read, and if you have anything to say, say it. If necessary, have fewer papers, but let the discussion upon those which we have be full, free, and exhaustive.

It should be the aim of every medical man in the state to attend these meetings. They occur but once a year, and, besides promoting a much-to-be-desired good fellowship among members of the profession, they impress, by force of numbers, the fact that a united profession in this state is a power to be reckoned with as regards legislative action of interest to us.

We are greatly indebted to our brethren of Colorado Springs, especially Drs. Solly and Neeper, for a jolly good time, and hope they liked us enough to ask us to come again. M. R. BREN, M. D.

#### A MOST INTERESTING SESSION

The Thirty-fifth Annual Convention of the Colorado State Medical Society, held at Colorado Springs October 3, 4 and 5, proved to be one of the most interesting meetings that the society has ever had.

The diversity of the scientific program, with its many practical features, caused an ever-increasing interest on the part of the members from session to session and provoked an almost universal discussion on their part. Rarely at any previous meeting of the society has there been such general discussion of papers. Such discussion is often the most valuable part of the scientific work of the society, and it is to be hoped that in the future allowance will be made and sufficient time arranged for discussion, so that it will not interfere with the time set for the presentation of papers, such as occurred at the Colorado Springs meeting.

Of special features none seemed to interest the profession generally more than the paper of Dr. S. E. Solly, of Colorado Springs, on the "Use of the X-Ray in the Diagnosis of Pulmonary Diseases," with demonstrations of skiagraphs which were excellent.

The general discussion of hospitals by members from all over the state brought out the fact that more attention should be given to this subject by the medical profession.

The entertainment for the members was varied and excellent, and the work of the different committees reached a high standard. The address of the president was heartily received. The selection of officers for the ensuing year was wisely made and seemed to please everyone.

Too much credit cannot be given Dr. Neeper and his assistants for the great success of the meeting.

M. COLLINS, M. D.

#### ZEAL OF THE DENVER PHYSICIANS:

The meeting of the Colorado State Medical Society at Colorado Springs will

take rank among the most interesting and best attended meetings held in recent years. An unusually large contingent of Denver physicians was present, which contributed greatly to the success of the meeting.

The local physicians deserve unstinted praise for the manner in which they entertained the visiting members.

Dr. Finney was a most satisfactory presiding officer, and took care that there was but little time wasted. Nearly all the papers on the program were read and most of them were liberally discussed. Without detracting from the value of many good papers read before the meeting, it can be stated that the originality displayed in Dr. Solly's paper, with exhibition of X-Ray plate of the chest, attracted great interest among the members.

Aside from the interest manifested in the literary program, there was considerable "doing" politically. The delegates outside of Denver were determined that all the important offices should not go to the Denver physicians. The zeal displayed by members in holding caucuses until the wee sma' hours of the morning was worthy of a more important cause. However, the business of the meeting was well and most expeditiously transacted, and the utmost harmony finally prevailed.

It is to be regretted that the House of Delegates decided to continue the publication of *Colorado Medicine*, as a return to the transactions in book form seemed desirable, as well as more economical.

SALING SIMON, M. D.

#### THE CAUSE OF SECRETARY HAY'S DEATH

In a leading article the London *Spectator* of July 8 says that Mr. John Hay accepted the post of Secretary of State, understanding "perfectly well that to carry on the arduous work at Washington would kill him, as no doubt it did." The

*Spectator* is further of the opinion that this virtual suicide was an act of patriotic devotion.

As for suicide, it becomes proper to recall that Mr. Hay's death was primarily due to hypertrophy of the prostate. It is well known that indigestion may temporarily increase that malady and, as indigestion is often caused by worry and overwork, perhaps Mr. Hay's official duties were thus indirectly the cause of his untimely death; but banqueting and other unnecessary concomitants of Washington official life should not be ignored in the consideration of such matters.

As for patriotic devotion, it may, in general, be said that men accept public office for one, two, three or all of four reasons: (1) for the sake of worldly gain; (2) for the sake of social advantage; (3) because of a desire to be in the public eye; (4) because of a desire to command others and direct their affairs. There is no reason for supposing that Mr. Hay accepted his last office with any unusual feeling of devotion; for, as that post and its duties were new to him, he could not foreknow with what signal ability he was to fill that office, or even whether he could fill it with advantage to his country. It is highly proper and doubtless serviceable to the state to praise after their death, men who have served their country well. To find reasons for amply praising Mr. Hay there is no need of going beyond the realm of facts. During his life he was fulsomely praised, certainly to no profit; for much praise of the living tends to substitute to greater or less extent external for innate causes of correct action, and to disturb rather than stabilize equilibrium of character.

A. D.

A dark horse was brought out for Secretary at the Colorado Springs meeting. His name was Black.

### THE NEW PRESIDENT

The election of Dr. Horace Greeley Wetherill of Denver to the presidency of the State Society, coming in the unanimous way in which it did, and without the aid of any previous committee selection, must have been most pelasing to the doctor and his friends, as it was fortunate for the society. Dr. Wetherill belongs to the vigorous set, is a deep student, and stands high as a physician, as a man and as a friend. He is not a man who stands still, thinking he has reached the topmost heights, but his vision is ever trained upward. Already he has accomplished much, but *THE JOURNAL's* prediction is that his future is bright with promise.

The election of Dr. Wetherill augurs well for the medical profession of the West, and particularly Colorado, and the society might have looked the state over without finding a man who could lend more dignity and honor to this most important position.

Dr. Wetherill was born in Lambertville, Hunterdon county, New Jersey, forty-nine years ago—on December 16, 1856, to be exact. He attended the New Jersey State Model School at Trenton from 1873 to 1875, and the University of Pennsylvania Medical Department 1875-1878, where he received his degree of M. D.

He was resident physician to the New Jersey State Hospital for Insane at Trenton from 1882 to 1884; gynecologist to St. Francis Hospital, and consulting surgeon to Mercer Hospital until 1895. He came to Colorado first in 1892, but did not take up his permanent home in Denver until 1895. At present he is surgeon-in-charge of the Denver Maternity and Woman's Hospital; surgeon St. Luke's Hospital; gynecologist of the National Jewish Hospital for Consumptives, and professor of gynecology and abdominal surgery in the Denver and Gross College of Medicine, University of Denver, from 1896 to the

present time. He was secretary of the faculty for two years.

Dr. Wetherill has been a constant contributor to the current medical literature for the past twenty years, and is one of the brightest writers in the West. The doctor is at present the Consulting Editor of *THE JOURNAL's* department of Abdominal Surgery and Gynecology. *JOURNAL* readers have been favored with much of value from his pen.

Dr. Wetherill was married on October 29, 1885, to Nellie A. Orr, of Trenton, and resides at 1127 Race street, Denver. They have no children.

A duotone print from the latest photograph of Dr. Wetherill is presented to our readers this month, the rare character of which speaks for itself.

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### A NEW EDITOR FOR COLORADO MEDICINE

Following the general plan inaugurated at Colorado Springs of a complete change of officers, J. M. Blaine has been elected editor of the journal of the state society, *Colorado Medicine*. Dr. Blaine is a good writer, has a wide knowledge of the needs and aims of the society, and is the possessor of many of the natural qualifications which enter into the make-up of a good editor. If anyone can find room for a third journal, we predict it is the doctor.

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### A CORRECTION

An error which we very much regret crept into the October number in the rush incident to closing up the forms. It placed the name of Dr. S. D. Van Meter as editor of the Department of Proctology. While the doctor is an expert of note in rectal surgery, the work in which he specializes is abdominal surgery. Dr. Van Meter is a very forceful writer, and *THE JOURNAL* will be glad to open its columns to him at any time upon any subject.

### THE SERIOUS ILLNESS OF THE JOURNAL'S EDITOR

The editor-in-chief of *THE JOURNAL*, Dr. Wm. N. Beggs, was stricken with a very severe attack of pleurisy on September 29, while on a vacation trip in the mountains. He was rushed to Denver with all possible speed, and taken to the Homeopathic Hospital on October 1, where an operation was performed. He is in charge of Drs. A. S. Taussig, W. A. Jayne, Henry Sewall, and J. N. Thomas. For several weeks his life has been despaired of, but he is now reported improving. Dr. Beggs had been on an extended overland trip since July. The rough country and hardships incident to the trip were too much for him, and instead of improving his health, as had been expected, his present serious illness was the result.

The doctor's many friends, as well as *THE JOURNAL* readers and its publishers, sincerely hope that he will soon be restored to health.

### MORE HONORS FOR THE JOURNAL

The *COLORADO MEDICAL JOURNAL* has long since ceased to be a local state journal, but its selection as the official organ of the American Anti-Tuberculosis League is certainly the kind of recognition which is very pleasing to *THE JOURNAL* management. It means all the more, coming voluntarily as it did.

The American Anti-Tuberculosis League is a national organization composed of several thousand prominent physicians specially interested in tuberculosis research, and its indorsement of *THE JOURNAL* is the very strongest possible indorsement of *THE JOURNAL*'s Departments of Tuberculosis and Climatology, which for several years have contained the best thought upon these subjects.

All the scientific papers which were before the League at the recent meeting will appear exclusively in the *COLORADO MED-*

*ICAL JOURNAL*, as will also the official proceedings of said meeting, and all official announcements of the League throughout the coming year.

The proceedings have just been received from the Secretary, and are now being prepared for publication. The publication of the papers and proceedings will begin in the December number. As these will appear only in this journal, there is sure to be a large demand for copies of the magazine containing them, and those desiring extra copies should place their orders at once. Those whose subscriptions are about to expire should send in their renewals promptly, so that the size of these editions may be made sufficiently large.

### PUBLISHERS' NOTE

On account of the illness of the editor, department editors and others who have matter in hand for current issues of *THE JOURNAL* will kindly send copy direct to the office of publication—and as early as possible.

### IMPORTANT ANNOUNCEMENT

Beginning with the present (October) number of *The Journal* a thousand or more copies will be sent out each and every month for introductory purposes. There will be no liability incurred upon the part of anyone receiving the magazine who has not ordered it. None but those on the list when the present owners took charge will ever be asked to pay for this magazine, unless it has been ordered, nor if an order to discontinue has been given, even though said order for any reason has not been complied with. We not only do not want anyone on *The Journal* list who does not care for it, but we do not want any doctor's money who has done his part to have the magazine discontinued, nor if the postmaster or our mailing department has been derelict. The mailing list is being put in first-class, modern shape as fast as possible, and while it is a large undertaking, with the assistance of our readers it will soon be straightened out. The only pressure *The Journal* will ever indulge in with its readers or the profession will be to make it so good and valuable they cannot get along without it.



# PROGRESS OF MEDICAL SCIENCE

## DEPARTMENT OF ALIENISM AND NEUROLOGY:

B. OETTINGER, M. D.,  
\*G. A. MOLEEN, M. D.,  
Editors.

H. T. PERSHING, M. D.,  
J. E. COURTNEY, M. D.,  
HUBERT WORK, M. D.,  
Consulting Editors.

### DISEASES OF THE NERVOUS SYSTEM.

J. T. W. Rowe (*N. Y. Medical Journal*, June 3, 1905) would prevent much insanity by avoiding the toxemia which follows too close application and overwork in unsanitary surroundings. He sees, in many conditions of present day life, a near approach to the borderland of mental disease, viz.: the laborer's ignorance of the laws of nature, the conditions which obtain for the sweat-shop worker, the professional man's overconfidence in his intellectual powers and nervous system, and the abuse which arises from this overconfidence. Many cases of mental and nervous disease remain for a long time in a curable stage and at this time the doctor's advice is especially helpful. For children, the crowded curriculum of the modern school is a potent factor in sowing the seeds of a condition that in after years may develop into an incurable mental disorder.

[The conclusions of the author, while sound enough in reality, point out serious defects of our society rather than such as are due to lack of medical advice. The intellectual who knows nature's laws better than the ignorant workman is none the better for his knowledge if compelled withal to unduly tax his physical resources so that he may hold his own in the strenuous life-race of his kind.—EDITOR.]

Price (*American Medicine*, June 3, 1905) reports a case of multiple neuritis in a girl 8 years of age, the same following malarial infection and lasting 18

months. The symptoms were pain, paresthesias, tremor of the hands, paresis of all the extremities, and foot drop. Intermittently there was a rise of temperature. The infection was of the estivo-autumnal variety. Recovery followed upon the administration of quinine.

BERNARD OETTINGER.

### THE TENDO ACHILLES JERK IN DIPHTHERIA.

Rolleston (*Brain*, May, 1905, p. 68) believes that this reflex has not received the attention given to it in cases of tabes and sciatica. After a study of 100 cases he concludes as follows:

1. The tendo Achilles jerks are affected in a considerable proportion of all cases of diphtheria, though less frequently than the knee jerks.

2. The frequency and extent to which they are affected bear, like albuminuria and paralysis, a direct relation to the character of the initial faucial attack.

3. They are completely abolished in all cases of diphtheritic paraplegia.

4. Their absence may be the only evidence of loss of motor power in the lower limbs.

5. Like the knee jerks, they are liable to be affected at an early stage of the disease, and to remain absent after the disappearance of all diphtheritic paralysis, properly so-called.

6. Like the knee jerks, again, they may be unequally affected on the two sides, and, like the former, they may be unusually

brisk before they become sluggish and finally disappear.

7. The Achilles jerk, like the knee jerk, after it has been lost may reappear on one side before it does on the other.

#### CHANGES IN THE CORTEX IN ACUTE MENINGITIS.

(Essai sur les alterations du Cortex dans les Meningitis Aigues, Pierre Thomas, Paris, J. B. Builliere et fils, 19 Rue Hautvefeuille.) The essayist believes that the part played by the vessels has been much exaggerated if not misunderstood. In his opinion the first changes are to be found in the larger and more highly specialized cortical cells. These, it is stated, show alterations before any change can be detected in the vessels, and with a severity which is in direct relation to the infectivity of the cause, duration of the infection and, apparently, the size of the elements.

The lesions which are described begin in the gray matter and extend to the vessels and meninges, and the pyramidal cells of the cortex are more susceptible to the virus of the pneumococcus and the tubercle bacillus.

#### LUMBAR PUNCTURE IN UREMIA.

Carriere, of Lille (*Arch. Gen. de Med.*, Sept. 12), announces that he has found lumbar puncture a life-saving procedure in uremia. In four out of six cases it was of no benefit. He believes the value to be explained by the reduction of the pressure of the cerebro-spinal fluid and also the

tendency to edema, while it at the same time removes the poisonous fluid which is irritating the cerebral cortex. The cerebro-spinal fluid he has found to be invariably hypertoxic in nervous uremias. If edema or compression are evidently accountable for the condition, he considers them liable to be benefited by this means.

#### PERONEAL TYPE OF PROGRESSIVE MUSCULAR ATROPHY.

Walton (*Jour. Nervous and Mental Dis.*, Sept., 1905, p. 573) reports a case occurring in a boy of 15 and having progressed very gradually since his 11th year. He comments on the difficulty of classifying this so-called "peroneal" or "family" type. He is of the opinion that the family history and physical examination of his case (aside from the reflexes) suggests a dystrophy rather than a spinal or neural type of atrophy. Three brothers also showed conditions analogous to the patient; the oldest, 25, has been afflicted 14 years, and while able to work, the muscles of the hands are wasted and the movements awkward, and as yet he shows no evidence of bulbar involvement. In the case described both feet are affected, the left somewhat more than the right; both feet are in a position of cavis. The muscles in the leg show diminished reaction to both currents. The knee jerks are sluggish and the tendo Achilles absent.

The author lays stress on the absence of fibrillary twitching even after prolonged examination. There are no sensory disturbances.

GEORGE A. MOLEEN, M. D.

#### INTRODUCTORY COPIES.

Any physician receiving The Journal without ordering same will know that one of two things has occurred—some brother M. D. has either paid us to send it in order to bring some article to his attention, or it is being sent for introductory purposes. In the latter

case, the magazine will be promptly discontinued at end of such period unless a signed order is given to have it continued. The Journal is to be run upon modern, up-to-date ideas, and there will be no graft methods used in the circulation or any other departments.

## DEPARTMENT OF LIFE INSURANCE:

S. T. McDERMITH, M. D.,  
*Editor.*

JOHN ELSNER, M. D.,  
 P. J. McHUGH, M. D.,  
*Consulting Editors.*

THE DEMAND FOR TRAINED EXAMINERS  
 AND WHAT MEDICAL SCHOOLS ARE  
 DOING TO MEET THE DEMAND.

"Be it Resolved, That the American Association of Life Insurance Examining Surgeons, assembled in Portland, Oregon, in regular session, July 10th, 1905, urge that each medical college in this country provide for and give in their regular course of instruction a special course of instruction on Life Insurance Examining, it being the desire of this association to advance the knowledge of this particular side of diagnostic work, and to prepare the recent graduate for this responsibility."

The resolution was adopted. Following are only a few of the points developed by the discussion of it:

"The medical student leaving college to-day is well trained compared with those leaving college with us; but he is trained to recognize pathological and not normal conditions."

"There is a vast difference between the examination of, say, the heart and large blood vessels, when one already suspects them to be at fault and when one, so to say, wishes to find them in perfect order."

"The ear and mind construe sounds in different ways, as the causes are variously considered, and the same sound will be interpreted differently under the changed conditions; it will, therefore, be much wiser to mix healthy and diseased examples in the classroom, giving the student the best possible opportunity to study out the distinction."

"Students who aspire to become medical examiners in life insurance should be taught that life expectancy, or, in other words, the after lifetime of applicants, is the principal factor in the whole problem, for all calculations, whether financial or actuarial, are based upon the probabilities

of an applicant's outliving a given number of years."

At the 1904 meeting (at St. Louis, Mo.) of the National Fraternal Congress the Medical Section of that body appointed a committee whose duty it was "To communicate to the various medical colleges of this country the necessity for such instruction," etc.

This committee sent out a circular letter to 166 medical schools in this country and Canada. Following are a few of the points which this letter brought to the attention of the school officials:

1. That in the United States and Canada there are about fifteen millions of insured lives, with over seventeen billions of dollars at risk.

2. That over two hundred millions was disbursed in 1904 in death claims, endowments and annuities to beneficiaries.

3. That in the same year the medical profession had an examining income from the business of seven millions of dollars.

(The foregoing to illustrate both the magnitude of the business and the tremendous responsibility resting on the examining fraternity in consequence of the sum at risk, which is so great as to almost induce vertigo.)

4. To the excellent opportunities which the business affords to young practitioners. This letter made it clear that the profession and the schools owe something substantial to this vast enterprise of life insurance—to the intelligent selection of risks for the business, and *that something* is adequate training to fit the examiner to properly perform his responsible duty.

At the late session of the National Fraternal Congress held at Mackinac Island, Michigan, the chairman of that committee, Dr. F. A. Smith, medical director Modern Woodmen of America, made his

report to the Medical Section. Among other things it showed:

1. That replies were received from 88 medical colleges.

2. Schools failing to reply, 78.

Replies classified thus:

(a) Number of schools which have chairs on medico-insurance or agree to add them, 38.

(b) Number that give limited instruction on the subject to their students, but have not added chairs to their curriculum, 16.

(c) Number which give no such instruction, 26.

(d) Number desiring to further consider the advisability of it, 8.

The report summarizes thus:

"It will thus be seen that of the total 88 replies, 54 now give instruction to a greater or less extent. If the 78 which failed to reply are classed among those which give no such instruction it still leaves 33 per cent., or near one-third written to that are now giving instruction partially or fully.

"Our correspondence reveals that a number of schools are in doubt as to what the scope of such instruction should be,

yet, the interest shown by them, and the fact that the bulk of this advance by one-third of the schools to meet the urgent demand has come about in the last two years is very gratifying. It is therefore the opinion of your committee that renewed efforts will eventually result in all medical schools, worthy of the name, giving proper instructions in this work, and thus give to insurance societies and companies competent and well-trained examiners."

The committee was continued with instructions to further urge the schools and induce as many more of them as possible to realize the overwhelming importance of measuring up to the needs of the hour in this important work.

Both associations that have sought to impress the need of this work on the medical schools universally agree that the didactic or clinical professor who is himself without practical experience in medico-insurance, is not the man to attempt to give this instruction. It should be some one who has worked out the problem by years of, at least, self training in practical experience, who realizes that the field and scope of the work practically amounts to a specialty in medicine.

#### DEPARTMENT OF GENERAL SURGERY:

F. G. CONNELL, M. D.,  
O. M. SHERE, M. D.,  
*Editors.*

LEONARD FREEMAN, M. D.,  
E. J. A. ROGERS, M. D.,  
R. W. CORWIN, M. D.,  
*Consulting Editors.*

#### THE EXPERIMENTS OF SAUERBRUCH IN THE FIELD OF OESOPHAGEAL SURGERY.

In October, 1903, Professor von Mikulicz charged his assistant, Sauerbruch, to investigate the question as to how best to prevent the occurrence of a pneumothorax in intrathoracic surgery, the main point to be considered being to render practicable transpleural resections of the oesophagus for carcinoma, a procedure which, so far, had been followed by the most disastrous results in experiments

upon animals as well as the human subject.

The method long employed by physiologists, of rhythmically pumping air into the lungs through a tube tied into the trachea, the only method of operating under increased pressure known up to that time, had been tried by von Mikulicz, but his experiments upon animals had not been satisfactory.

After numerous experiments with different apparatus, the cardinal question of

the feasibility of such operations under negative pressure was demonstrated to the satisfaction of Sauerbruch. For a detailed description of the room used the reader is referred to the author's extensive article in "Mittheilungen aus den Grenzgebieten der Medizin und Chirurgie," Vol. 13, Tome 3, entitled, "Zur Pathologie des offenen Pneumothorax und die Grundlage Meines Verfahrens zu Seiner Ausschaltung."

All operations (and here we may say that the author distinguishes two methods, (1) anastomosis between œsophagus and stomach—"Œsophago-gastrostomy," and (2) resection of the œsophagus—"Œsophagotomy") were done in his newly constructed cabinet under a negative pressure of 10-12 mm. of mercury. Dogs exclusively were used for the experiments. The opening in the chest was made by means of an intercostal incision originally proposed by von Mikulicz at the last German Surgical Congress. According to Sauerbruch the three main factors of especial importance in the surgical work on the œsophagus are (1) strict asepsis, (2) substitution of the Murphy button for the suture, and (3) rapid production of adhesions by means of some such substance as Lugol's Solution.

*Œsophago-gastrostomy*—Thirteen operations were performed in the following manner: Having exposed the œsophagus, great care is exercised not to disturb the anatomical parts surrounding and covering it. The double serous covering of the cardiac portion of the œsophagus, viz.: pleura and peritoneum, are incised at the foramen œsophageum; the stomach is then pulled into the thoracic cavity. A Murphy button is then introduced from without, and the stomach is thus anastomosed to the œsophagus. Careful suture with silk of the diaphragm to the portion of the stomach that has been pulled into the pleural cavity. Then the anastomosis, diaphragmatic sutures, and pleura, are

touched with Lugol's solution to induce rapid formation of adhesions.

All of the dogs operated upon recovered. Three died suddenly later. Autopsy in two of them showed that the stomach, much distended with fluids, had suddenly slipped into the pleura, compressing the heart. Careful suture will guard against this accident.

*Resection of the Œsophagus*—Œsophago-gastrostomy is done by means of the button, as before. Then the nervi vagi are isolated. The œsophagus is compressed with an intestinal clamp and ligated with a strong silk thread, and divided. The same maneuver is done at lower end of portion to be resected. Inversion of the latter into stomach is accomplished by means of purse-string suture, with stitching of stomach against the upper stump in order to protect the ligature. The wound is then closed. Of eleven dogs operated upon in this way, every one recovered.

It is of importance to note that Sauerbruch has tried all these methods on the human cadaver and found the anatomical relations exactly the same.

So far, the few resections of the œsophagus done on the human subject within Sauerbruch's box at the Breslau clinic (3 in number) have resulted in the patient's death. Hence we must confess that the direct practical value of these experiments of Sauerbruch is small. However, great good has already been derived from the fact that the practicability of extensive surgical work upon the œsophagus has been established. More than this, the experiments show what can be done in the cabinet, and when one remembers that it is considerably less than a year that the new cabinet has been in working order, we can imagine the possibilities, not only in œsophageal, but also in the domain of lung, pleura, ribs, mediastinal and diaphragmatic surgery. —(Meyer, *Annals of Surgery*, May, '05,

and Stetten, *New York Med. Jr.*, June 15, '05.)

#### SUBACUTE PERFORATION OF THE STOMACH

F. B. Lund outlines the histories of three cases, and refers particularly to those conditions in which a very small opening may become plugged by a bit of omentum or by fibrin. In such a case the perforation becomes almost at once walled off by adhesions from the general peritoneal cavity. The general ideas the author advances are summarized in the following propositions:

1. The symptoms of subacute perforation of the stomach are similar to those of acute perforation, with the important exception that they are less violent and are not followed by collapse or by the development of general peritonitis.

2. The location of the pain and tenderness depends upon the location of the ulcer and varies with it.

3. The treatment should be, if possible, posterior gastroenterostomy without breaking up the protective adhesions. (*Bost. Med. and Surg. Jr.*, May 4, '05.)

O. M. S.

#### NON-CALCULOUS CHOLECYSTITIS.

David S. Fairchild, in a paper before the Surgical Section of the American Medical Association (*J. A. M. A.*, Aug. 12, 1905), says: Notwithstanding the fact that calculous cholecystitis, or cholecystitis associated with gallstones, has been well worked out, it is only recently that a class of cases of long standing gallbladder disease without gallstones has received attention.

The special form of gallbladder inflammation he considers, differs from the catarrhal cholecystitis, from empyema of the gallbladder, and from suppurative cholangitis. The difference is not so much in the character as in the degree of the infection, and it appears that calculous

formation was prevented by some condition present in the gallbladder itself.

The symptoms closely resemble those of gallstone disease, but the classic gallstone colic may be absent.

It has been observed that drainage relieved the symptoms as effectually as in gallstones.

Gallstones are usually due to infection, but the fact that gallstones are found so frequently at post-mortems that gave rise to no symptoms during life indicates that one must look deeper than the infection that caused the gallstones for the serious symptoms which brings the patient to the surgeon.

It is the mechanical influence of gallstones that makes this condition of surgical interest; first, by an obstruction when the stones attempt to escape through the ducts, and, second, by traumatism of the gallbladder or ducts.

He makes a comparison between the calculous and the non-calculous type of the disease, during the *formation* of gallstones and not at a time when these stones have set up secondary changes, when, according to the author, gallstones cease to form on account of an influence exerted on the cholesterin secretion of the glands of the gallbladder.

There are certain clinical and pathological findings which appear to show that the infection in the non-calculous cases is more serious than the simple primary calculous varieties. Fairchild expects more fever in the non-calculous cases than in uncomplicated gallstones.

On theoretical grounds, cholecystectomy would be indicated, but the whole problem in treatment consists in drainage. In deciding the question as to the removal of the gallbladder, the surgeon will be governed by his ability to determine with absolute certainty as to the patency of the common duct. It would certainly be a much less serious mistake to leave the gallbladder that might safely come out, than

to take out a gall bladder that might be needed for drainage.

The result of operation in the milder cases of non-calculous cases are as good as in uncomplicated calculous cholecystitis, while in the more severe the mortality is

higher, and convalescence more protracted. In the milder cases drainage for ten days results in a speedy recovery. In the more severe, drainage for a longer period may be necessary, or a cholecystectomy may even be demanded. F. G. C.

#### DEPARTMENT OF OPHTHALMOLOGY:

MELVILLE BLACK, M. D.,  
*Editor.*

##### TECHNIQUE OF IMPLANTING THIERSCH EPIDERMIS GRAFTS IN THE OPERATION FOR SYMBLEPHARON.

F. C. Holtz, M. D., Chicago, (*Annals of Ophthalmology*, July, 1905). The author probably has done more to advance plastic surgery of the eyes than any other man. He now gives us his operation for symblepharon, as he performs it, after many modifications. It sounds good, and I have no doubt it will do all he claims for it.

If we have to deal with a symblepharon of the lower lid, the lid and globe are separated, and cicatricial bands excised. A half-moon-shaped disc is made just large enough to fit into the lid pocket. Its upper straight edge is perforated at intervals of  $\frac{1}{2}$  cm., and this edge conforms to the lid border. This disc is cut from a plate of lead or tin  $\frac{1}{2}$  mm. in thickness. The ends of the plate are rounded to conform to the ends of the pocket at the internal and external canthi. After being satisfied of the accurate fitting of the plate, the next step is the cutting of the epidermis flap from the outer surface of the patient's arm, the part having been previously prepared. The arm is extended from the shoulder, and while supported by an assistant the arm is grasped by the operator between the fingers and thumb of his left hand so as to keep the skin from which the flap is to be shaved evenly stretched. A flat razor is used, and its side, which is laid upon the skin, is lubricated with sterile vaseline. If this is done it is not difficult to cut a flap wide enough

and long enough to cover the whole wound and to get it so thin that it contains merely epidermis and the tops of the papillæ. The cut flap is transported directly from the blade to the wound, over which it is spread while the assistant holds the lid everted. The bulbar portion of the flap is then fastened by a few fine silk sutures to the wound edges of the ocular conjunctiva at the nasal and temporal side. Then the flap is tucked down into the angle between the eyeball and lid and finely spread out over the lid mound to the free margin. The convex edge of the lead plate is now placed upon the flap at the junction of the lid and eyeball and held there by moderate pressure, while the assistant allows the lid to slowly return to its normal position. After being satisfied that the flap is smooth and not rolled in at any point, and while still holding the plate in place, insert a needle armed with fine black silk into the hole in the edge of the plate which is nearest the center and pass it through the lid and let the assistant tie the thread. A similar suture is placed near the outer and inner margins. This plate assures even pressure of the flap as well as immobilizes the lid, thus rendering it unnecessary to sew the lid margins together. The eye should be kept bandaged for three days. The plate is taken out at the end of a week.

##### PTOSIS AND THE OPERATION OF MOTAIS.

Henry Dickson Burns, M. D., New Orleans (*Annals of Ophthalmology*, July, 1905). After reviewing the causes of

ptosis and its treatment the author describes Motais' operation for ptosis and reports five cases he has operated upon by that method. The operation consists in exposing the tendon of the superior rectus muscle from its attachment in the sclera to a point as high as possible in the fornix. With the tendon held up by a tenotomy-hook a suture is passed through the central fibers of the tendon and tied. The fibers included in the suture are severed from their scleral attachment and stripped up by two incisions carried backward through the muscle as far as possible. The sutures are then carried through a dissection of the skin from the tarsus and emerge through the skin close to the lid border. The tendon is now pulled close up under this point and the suture tied

over a little roll of gauze. The ocular and fornix conjunctiva are brought together with sutures and the eye closed. The conjunctival sutures are removed on the third day and the tendon suture on the fifth or seventh day. The immediate effect of the operation is to cause a decided pulling up of the upper lid, so much so that the eyelids cannot be closed. The ultimate result, however, is that the upper lid is pulled up just enough to expose the pupil. There is no deformity to the upper lid and brow such as obtains in ptosis operations uniting these two structures together by cicatricial tissue. This, certainly, is a step forward in the operative management of ptosis, and is well worthy of consideration.

MELVILLE BLACK, M. D.

#### DEPARTMENT OF PHYSIOLOGY, HYGIENE AND PUBLIC HEALTH:

ALLISON DRAKE, Ph. D., M. D.,  
Editor.

HENRY SEWALL, Ph. D., M. D.,  
Consulting Editor.

#### VEGETARIANISM MILITANT.

Vegetarians held an international conference at London June 21 and 22. The following resolution was adopted by the women's section of the conference: "As the practice of flesh-eating is associated with cruelty and suffering, and as flesh food is unnecessary for physical and intellectual development, and as the use of a properly selected vegetarian diet will promote health, diminish drunkenness, help to solve the problem of uncultivated land and unemployed people, and prevent much of the physical degeneration which is causing such widespread alarm, the members of the First International Conference of Vegetarian Women appeal to all women who have at heart the welfare of the world to give the important subject of vegetarianism their most serious and careful consideration." A vegetarian school of cookery is to be established in London with branch schools in various other cities.

A. D.

#### SANITARY AND MORAL PROPHYLAXIS.

In an inaugural address read before the Society of Sanitary and Moral Prophylaxis, Feb. 9, 1905, and published in *American Medicine*, Feb. 25, 1905. Dr. Prince A. Morrow discusses the object and aims of the society. With his usual frankness and "practical prudence" he grapples with the most difficult of all the problems of social hygiene, that of defending society against a class of diseases that is most injurious to its highest interests, those comprehended under the general term "vehereal."

Immorality and its consequent diseases ate the heart out of the greatest empire this old world has ever seen, and many modern nations are beginning to appreciate their dangers. Increased interest along these lines is attributed to "more accurate knowledge of the enormous extent and prevalence of these diseases, to a more thorough comprehension of the wide range and far-reaching char-



acter of the pathologic effects, and especially to a clearer recognition of their important relations to the health and productive energy of the family, the vitality and the vigor of the descendants, and the physical progress of the race." Moral, legislative, and social as well as medical means were urged in the prophylaxis of these diseases.

One phase of venereal morbidity receives special attention, the "criminal" infection within the marriage bonds, and, quoting from Osler, the writer says: "These are in one respect the worst of all (infectious diseases) we have to mention, for they are the only ones transmitted in full virulence to innocent children to fill their lives with suffering, and which involves equally innocent wives in the misery and shame." The frequency and gravity of marital infection are not appreciated and cannot be computed.

Ignorance is responsible for this state of affairs and education is urged as one of the most effective weapons for the fighting of this peril.

All other infectious diseases are contracted involuntarily and unconsciously; but in this class of diseases any man must voluntarily expose himself to the infection—ignorantly no doubt, but by individual free will.

The author advises that the education should be addressed first of all to the rising generation. Let the young men learn that sexual indulgence is not a ne-

cessity and that continence is compatible with the highest physical and mental vigor, and let them not minimize the danger of venereal infections. The educated class of young men is very limited, and this information must reach all. It is urged that lectures, conferences and printed material of all kinds be used for this purpose and that the sympathy of legislators and public-spirited men be enlisted to aid in the carrying out of this colossal propaganda.

Prophylaxis by treatment is most important to limit as much as possible the spread of these diseases and so protect the community from the extension of this curse.

Moral prophylaxis is vital, for the diseases cannot exist except on account of the immorality which is their cause. Let it not be said that debauchery is a necessity for men.

Most efforts are directed toward the making of prostitution safe. The moral side of the question is left untouched. To prevent the making of prostitutes will do vastly more in the control of venereal diseases.

When the ignorance which has so often resulted in the bringing of venereal diseases into the homes of our land is dispelled, much of this criminal infection will be avoided, and the bulwark of our nation shall stand, and we shall prevent a great curse from falling on generations yet unborn. H. P. PACKARD, M. D.

#### DEPARTMENT OF LABORATORY DIAGNOSIS:

EDWARD C. HILL, M. D.,  
*Editor.*

##### INDICANURIA.

The most frequent abnormality of human urine is excess of indoxyl-potassium sulphate, or "indican," along with other ethereal sulphates. The examination of the urine for indican is of considerable therapeutic importance, since indicanuria

is an index of gastrointestinal autointoxication (putrefaction of proteins), which is the most common cause of feeling ill (headache, depression, waking tired, etc.). Indicanuria is noted in hypochlorhydria, achlorhydria and sometimes in diarrhea, appendicitis, peritonitis and gastric or

hepatic carcinoma. The greatest excess of indican is observed in cholera and intestinal obstruction or tuberculosis. Indican is increased by a meat diet; diminished on milk or buttermilk. It is increased in the urine by castor oil and salines; markedly diminished by calomel or lactic acid.

A simple and sufficient test for indican is to add to a little urine one-fourth as much hydrochloric acid and a few crystals of saltpeter. Boil the mixture, let cool, shake with one-sixth as much chloroform, and let settle. If indican is normal in amount, the layer of chloroform is colorless. When there is excess of indican, this layer is colored light blue to a deep purple, according to the amount of indican. Slow oxidation produces indigo red (indoxyl plus isatin); by further oxidation indigo blue is changed to colorless isatin. Iodids taken internally color the chloroform blue, but the color disappears on shaking with sodium thiosulphate. In Robin's quantitative test for indican, three reagents are required: (1) HCl containing 2 p. m.  $\text{Fe}^2\text{Cl}^6$ ; (2) a 25 per cent. solution of  $\text{Pb}(\text{C}_2\text{H}_3\text{O}_2)_2$ ; (3)  $\text{KClO}_3$ , 34.6 gm. per liter of water—contains 1 per cent. available chlorin. To 10 c. c. of

urine add 1 c. c. of lead acetate solution, and filter through a double filter. Put 5 c. c. of filtrate in a test-tube, add 5 c. c. of reagent (1) and 2 c. c. of chloroform, and invert tube about ten times. Now add from a dropper the  $\text{KClO}_3$  solution until the blue color in the chloroform disappears. One to two drops normally cause decoloration.

Indigo red in the urine has the same significance as indican. It is recognized (Rosenbach) by adding nitric acid drop by drop to the boiling urine, getting a deep red color, with a violet foam on shaking. Skatoxyl-sulphuric and skatoxyl-carbonic acids also give a red or a violet color on treating the urine with hydrochloric acid containing a little ferric chlorid, after filtering off the sediment produced by lead acetate.

To discover phenol-potassium sulphate, distill 25 c. c. of the urine with 5 per cent. of sulphuric acid, and add bromin water to the distillate, getting a yellowish ppt. of tribromphenol. Millon's reagent gives a beautiful red color with the distillate. An intense phenol reaction has been noted in liver disease, chronic alcoholism and infectious fevers.

EDWARD C. HILL.

#### DEPARTMENT OF FOREIGN LITERATURE:

German—W. J. BAIRD, M. D., Editor.

#### PATHOLOGIC ANATOMY AND METHOD OF INFECTION IN CEREBRO-SPINAL MENINGITIS.

Westenhoeffer (*Berlin. klin. Woch.*, No. 24, 1905) sums up as follows:

1. The entrance of the germs causing cerebro-spinal meningitis is from the nasopharynx, particularly the pharyngeal tonsil.

2. The meningeal inflammation is always primarily a basilar one and in the region of the hypophysis, infection occurring through the lymph channels.

3. The meningeal inflammation as a

sign of disease of the cranium cavii is analogous to the disease of the mucous membrane of the retro-pharyngeal spaces.

4. Never, or certainly only rarely, is the meningitis an extension of the disease by way of the ethmoid cells.

5. The disease is pre-eminently one of childhood.

6. Children and adults attacked show marked signs of a so-called lymphatic constitution.

7. Cerebro-spinal meningitis is an "inhalation disease."

8. Stamping out the disease is essen-

tially a question of providing hygienic dwellings.

9. The meningo-coccus Weichselbaum-Jaeger is present in the large majority of the cases, but that it is the only cause of the disease is not fully proved. The fact that other cocci are found present with the meningo-coccus, or even alone, does not prove that they all do not play a secondary role and that the true cause of the disease is not yet known.

#### PREMENSTRUAL ELEVATION OF TEMPERATURE IN TUBERCULOSIS.

Kraus (*Wien. med. Woch.*, No. 13, 1905) believes that two-thirds of all tuberculous women will show elevation in temperature of .5 to 1° C. one to two days before the beginning of the menstrual turn, and that, in case the diagnosis is in doubt, this premenstrual rise in temperature may be a valuable help in determining the existence of tuberculosis. He has noticed, too, that the physical signs are more marked at or immediately before the menstrual period.

[NOTE—In my own work with Koch's tuberculin I have noticed so often a premenstrual rise of temperature that I have come to expect it in all cases and to be able to rapidly increase the dosage at this time. Only a few days ago a patient reacted to 0.6 old tuberculin with a temperature of 37.7° and marked local reaction. Twenty-four hours later menstruation set in and forty-eight hours later 0.7 old tuberculin gave no reaction either local or general, the temperature being 37.1°.—EDITOR.]

#### TUBERCULOUS DISEASE OF THE EAR IN INFANCY.

Haike (*Berlin. klin. Woch.*, No. 24, 1905) reports and discusses five cases.

Case 1. A female, age four months, whose mother and two sisters died of phthisis, had a stinking discharge from

the ear, how long was not known. In the discharge from the ear, stools, and sputum 'pumped' from the stomach, tubercle bacilli were found. Death occurred at 5 months.

At the autopsy cheesy masses and submiliary tubercles were found in the lungs, tuberculous glands in the neck, axilla and inguinal region, submiliary tubercles in the liver and spleen, tuberculous ulcers in the small intestine, cheesy degeneration of mesenteric glands, caries and sequestrum formation in the temporal bone, microscopic tuberculous ulcers of the mucous membrane of the tube and tympanum, and beginning disease of the labyrinth, vestibular portion.

Case 2. A female, 12 years of age, whose mother died of tuberculosis, had a discharge from the right ear. She died of caseous pneumonia at six months. An autopsy revealed cheesy masses in each lung, spleen, and mesenteric and bronchial glands. On the mastoid and posterior wall of the pharynx were glands in cheesy degeneration. The probable infection of the ear was from the pharynx or glands of the mastoid region.

Case 3. A female, seven months old, whose mother was tubercular, had a discharge from the ear which was very offensive. Membrane from the middle ear of the auditory canal showed diphtheria bacilli, but there was no pharyngeal diphtheria. Facial paralysis appeared three weeks before death, which occurred at 8½ months. An autopsy showed edema of the brain, tuberculous bronchial glands at the bifurcation, caries of the temporal bone, pachymeningitis externa, tuberculous ulceration of the auditory canal, tympanum, and mucous membrane of the tube. Infection was likely primary in the ear, the diphtheria being secondary.

Case 4. A 2½ weeks old child when received was seemingly healthy. At five weeks, following swelling of the mastoid glands, there was purulent discharge

from the ear and, a few days later, facial paralysis. Death from pneumonia occurred at 8 months.

There were masses of miliary tubercles in the left lung; bean-sized bronchial glands with beginning caseation; millet-seed sized mesenteric glands without caseation; abscess in the temporal fossa which had perforated the peritoneum; roughened bone; caries of the petrous portion of the temporal bone; a chain of swollen glands extending from the mastoid process over the sterno-mastoid muscle, the upper one suppurating, the lower swollen to a tumor the size of a walnut; tuberculosis of the tympanic mucous membrane; caries of the ossicles; infiltration of the vestibular end, ostium, and oval window. Tubercle bacilli were not found in the discharge but in the suppurating mastoid glands. These anatomic changes occurred apparently within three weeks. Infection was probably primary in the ear and from the pharynx, secondary in the lungs and the bronchial glands.

Case 5. A female, seven weeks old, whose mother died of phthisis. There was discharge from the right ear and 14 days later, facial paralysis. Death from pneumonia occurred at 13 weeks. There was no tuberculosis of the thorax or abdomen. On the hard palate were wheat-grain-sized tubercles extending to both pillars of the fauces, floor of the mouth, the posterior surface of the uvula, and to the root of the tongue. There were caseous lymphangitis and lymphadenitis.

An autopsy gave caseous mastoid cells, tuberculous disease of the tympanic mucous membrane, beginning disease of the vestibulum, tubercles in the ductus cochlearis, and masses of tubercle bacilli.

One is impressed by the extremely rapid course (3 to 6 weeks) run by these cases. Of importance is the source of the infection—from the mouth and pharynx, perhaps from washing the mouth, tasting the milk by tuberculous mothers and nurses,

kissing, contaminated mouthpieces of nursing bottles, playthings, fingers of child itself, etc.—all sources of infection that may be guarded against.

#### VERONAL POISONING.

Now that veronal is coming into use as a hypnotic and is likely to prove one of the most satisfactory, it may be well to call attention to the possibility of veronal poisoning, especially so since it is advertised as harmless. Gerhartz and Hald have reported two cases of veronal poisoning (three and six grams) marked by stupor, tetanic contraction of the body, reactions of the head, and pemphigus-like exanthem.

Sendenheimer has reported one case of chronic veronalism characterized by weakness, inco-ordination, general condition resembling drunkenness, and euphoria.

Hoppe (*Deutsche med. Woch.*, No. 24, 1905, page 971) reports the following case: A male, 26 years old, is a neurotic and alcoholic, but has abstained from alcohol since last December. For insomnia during the first weeks of abstinence, he received an occasional 0.5 gram dose of veronal. Since the middle of January he has lain in a deep sleep, from which it has been almost impossible to awaken him, the entire forenoon of each day. In the afternoon he was employed but was able to keep up only by drinking eight to ten cups of strong coffee during the afternoon, and by excessive smoking, and he then acted as if he was intoxicated. It was discovered that he had been taking two to three grams of veronal each day.

Hoffman has reported two strikingly similar cases.

[About one year ago I prescribed veronal in 0.5 gram doses to be taken at bedtime for insomnia. The patient was a strong, sensible man of about fifty, slightly neurotic. A few days later he returned

and said that he had been compelled to discontinue the powders because the next forenoon, after taking one he was unable to stand alone, was troubled with dizziness,

and felt very heavy and stupid. With a two years' experience with veronal this is the only case in which it has failed to please both physician and patient.—Ed.]

## SOCIETY REPORTS

### THE MEDICAL SOCIETY OF THE CITY AND COUNTY OF DENVER

A regular meeting of the Medical Society of the City and County of Denver was held at the Academy of Medicine, September 19, 1905. In the absence of the president and the vice president, Dr. Macumber was elected president pro tem.

The minutes of the last regular meeting were read and approved.

Vice-President Burns arrived and occupied the chair.

The scientific program consisted of a paper entitled "A Case of Trauma of Lung with Recovery," by Matt R. Root, M. D.

All the members present were called upon by the chairman to report cases, and the following cases were reported:

1. A case of enlarged bronchial glands, by J. N. Hall, M. D. Dr. Hall said:

I have recently seen another of those interesting cases in which the bronchial glands are enlarged following a broncho-pneumonia. In this child they pressed upon the right bronchus to such an extent as to nearly cut off the passage of air from it. The child suffers from the hard, paroxysmal cough common to this condition. Under the use of cod liver oil and iodide of iron the trouble commonly subsides.

The infection in this case is presumably by the pneumococcus and the pus organisms commonly found in a broncho-pneumonia and not from tuberculosis. Although the glands occasionally suppurate, the great majority end in recovery without breaking down.

2. Four cases of Hemophilia, by John Boice, M. D., as follows:

The first two were cases in which a tooth had been extracted from each one. In each bleeding soon began from the gums and sides of the cheek as well as from the tooth cavity, and each dying in about fifty hours from the time of tooth extraction. These cases were seen before it was known that salt solution could be used for transfusion.

The third case was a boy of 12 or 13 years who had a long, thick sliver of wood in the back of his hand, which, on being removed, bled so profusely a firm compress was used to stop the hemorrhage. The following morning the skin had sloughed away to such an extent that a silver quarter would not have covered it, and a dressing of powdered tannin was used, the tincture of iron being given internally. The next morning the slough had increased so that it covered about two-thirds of the back of the hand, from which blood was oozing freely. The hermo-cautery was then used, just enough to glaze the surface, the dressings being applied very loosely, after which no further trouble was experienced.

The fourth case followed an operation for goitre. After removal of the tumor all the small blood vessels were tied, as they would not stop bleeding as they would in any ordinary case. As soon as this was done oozing began from the whole surface of the cavity; and a solution of adnephryn was used, which stopped the hemorrhage sufficiently to allow the oper-

ation to be finished. In about eight hours the dressings were saturated with blood and had to be changed, when another syringe full of adnephrin was thrown into the wound by the side of the drainage-tube. This controlled the hemorrhage until next day, when it was repeated, after which there was very little bleeding. A couple more applications of adnephrin were used, after which the patient made an uneventful recovery.

The cases were discussed by Dr. Simon, who called attention to secondary hemorrhage after the use of adrenalin; and by Dr. P. D. Rothwell, who read a note from a book which said that "Oil of turpentine in doses of one to two drachms acts as an irritant of the kidneys and genito-urinary organs, while in doses of one to two ounces it operates freely upon the bowels without renal or vesical irritation".

3. A Peculiar Habit, by P. D. Rothwell, M. D., as follows:

Three years ago, but a little later in the season, one of my patrons came to consult me upon a serious matter from his standpoint. Winter was approaching and, like a careful, provident father, he had laid in a good supply of groceries. He informed me that he would be compelled to destroy them. On inquiring further the reason for the father's lugubrious appearance became very plain. His boy, aged about 5 years, was the victim of a peculiar habit. Punishment had no effect in causing him to give up this habit. He did not seem to think that there was anything wrong about what he did.

If you will pardon me, I will use as nearly as possible the father's words: "My boy has pead in the sugar, pead in the coffee, pead in the tea, pead in the rice, the flour, the syrup, pead on the bacon, the ham, the sausage, etc. He has opened the oven doors and pead on the pies. He has pead in the milk when sent

for it. He peas in the pockets of the little boys and girls on their way to and from school. Early in the morning I have found him peaing in his little brother's ear. I have tried to break him from this habit without any success. What can you do to help me?"

Just then I betook myself to another room to collect my thoughts. I felt that this was one on me. There was a comical side to this case, despite the grave appearance of the father. I frankly told Mr. S— that the case was unusual in my practice. I told him to bring the son to the office. In the meantime I was wondering whether I had a case for the surgeon, the neurologist, or one on whom the much-vaunted suggestion would be of use.

When the nice, brown-eyed boy appeared on the scene, as innocent as a cherub, I suggested to the father while the boy was listening very carefully, that the offending member would have to be amputated, seared with a red-hot iron, etc., if used for improper purposes. Had there been any need of circumcision, I would have performed it, but such need did not exist. A month after the father returned and told me that the boy behaved for a week and then returned to his old ways. The family later on left the city, and I am sorry to say that I cannot tell you the present status of the case.

4. The Report of an Autopsy and a Short History of the Case, by Mary Hawes, M. D., as follows:

The patient was a woman, about 60 years of age. She had been taken ill last November with an attack of influenza. Her health before then had been excellent. She grew better and was able to be out, when a backset resulted in pneumonia. From this, she grew better a second time. Then there followed a second backset, with fever and chills and intense pain in the chest. This pain sub-

sided somewhat, but began again in the region of the liver. After several days of especially severe symptoms, there followed the discharge of a large amount of pus by rectum, with amelioration of the condition. Then, however, signs of failing circulation, of difficult respiration, and of general failure of strength showed themselves. She was free from pain for some weeks, without fever, and with but vague physical signs to account for her asthenia. Death came the third week in July.

I saw her for the first time after death, when I was called to perform the autopsy.

The body was that of a well-preserved female, with considerable pauculus adiposus. Right side of chest sunken, left bulging. Heart somewhat small, valves normal, much displaced to the right; apex about  $1\frac{1}{2}$  inches to right of right sternal margin. Left lung emphysematous, occupying most of mediastinal space and extending to right of sternum. Otherwise normal. Right lung entirely absent, its place being taken by organized lymph about  $1\frac{1}{2}$  inches in thickness. No air space, no cavity of any sort, and no pus present. Pleural cavity obliterated, the lymph extending from the parietal surface, right side, to the mediastinal surface of the left lung and to the pericardium.

There was a perihepatitis with adhesion of the liver to the diaphragm, and of the duodenum to the liver. The lesser peritoneal cavity was obliterated and filled with adhesions. In the mass of adhesions connecting liver, diaphragm, and duodenum no space containing pus was found. The liver was pushed upward to a considerable degree, occupying much of the space of the absent right lung. The lumen of the duodenum was contracted by its thickened walls. The position of a perforation could not be found. The interpretation of the case seemed to

be that the pneumonia had resulted in abscess, that had perforated into the pleura, causing an empyema; this in turn had perforated through the diaphragm, causing a subphrenic abscess which had finally drained away by perforating the duodenum. If the heart and the other lung had been competent to do the work of the absent lung, the patient might have recovered. She had evidently withstood successfully the pyaemia and nature had done her best to effect a cure by providing an opening for the pus. The most remarkable feature of the case was the absence of pus anywhere in the body and the entire absence of the right lung, absolutely no lung tissue being present.

5. Report of a Case of Appendicitis with Perforation, by Arnold S. Taussig, M. D., as follows:

The specimen which I present before the society is not unique, but the history of the case is certainly so.

A. M., male, aet. 34, taken ill Sunday evening with pain in region of umbilicus, unaccompanied by vomiting or any other symptom serious enough to justify a physician being called. On Monday morning patient summoned a physician who pronounced case one of "cramps," gave patient a hyperdermic and considered it unnecessary to return. First saw patient the following day at noon, or twenty-eight hours after the first physician had seen case. He had returned from a walk down town, which he felt able to take, and on returning home felt pain in abdomen and called for me. During the preceding twenty-eight hours he had been fairly comfortable, complaining only of slight abdominal pain and fever. Examination revealed following conditions: Patient lying on back, apparently very comfortable, flushed cheeks, temperature  $101^{\circ}$ , pulse 120, good volume, tongue moist with heavy, white coating, abdomen tender, especially in hypogastric region, also in right and left inguinal

regions and on deep pressure over whole abdomen, no rigidity of muscles but over right inguinal region a flaccid condition of same. Patient complained of some pain over bladder and also when urinating.

A diagnosis of ruptured appendix made and patient ordered sent to hospital. Operated by Dr. Perkins an hour after arrival. Appendix found perforated close to the cæcum, pus free in lower right abdominal cavity, serum tinged by pus, blood vessels of intestines highly injected. Appendix removed, drainage tubes with gauze used and patient given twenty c. c. of Stearns auto-streptolytic serum, which was repeated within twelve hours.

The case is reported to show the lack of symptoms to indicate rupture, which had probably taken place ten or twelve hours previously, and the danger of leaving any patient with abdominal pain after giving a hypodermic, trusting the patient, even though he may desire it, to decide when or whether we shall return.

Since reporting above case, six days ago, the patient has been doing nicely and is apparently on the high road to recovery.

6. A Case of Empyema, by Saling Simon, M. D., as follows:

A. B., age 35, married; occupation goldsmith; mother died of Bright's disease, otherwise family history negative. Wife living. Patient had been in Denver previously for several months, but returned to New York, where he remained five weeks. He came to my office in the early part of July for treatment. He was markedly anæmic and dyspnoeic. On examination I found marked flatness of the entire right chest, absolutely no pulmonary breathing detectable, and some dullness of the left apex. Diagnosis of tubercular empyema was made and the patient sent to the Mercy Hospital for removal of pus. On the following day I introduced a large canula and trocar at

the fifth interspace on the right in the axillary region, and, I believe, I do not exaggerate when I state the amount of pus evacuated was fully a gallon. I then introduced a rubber tube closely fitting the inside of canula and connected the end of same with a large bottle. At the present the patient is improving; still wears his tube connected with a small flask in his hip pocket.

7. A Case of Traumatism of Lung, by Geo. W. Miel, M. D., as follows:

Dr. Root's case of traumatic involvement of the lung invites my report of a case of that nature which came under my care in July.

A railroad track laborer had been struck over the right thorax posteriorly by contact with the side of a fast-moving passenger train. I saw him in the depot baggage room at Littleton about two hours subsequently, meantime he had received emergency attention from Dr. Mary Stratton.

A considerable effusion of blood had occurred at the site of direct injury, occupying the space between the lining and the parts overlying, which were infiltrated, but not discolored, and no wound communicated. The amount of free blood at this time was estimated at two pints. Adhesive straps had been applied to support the back and contend against further hemorrhage, and seemed to have had useful effect.

An hour later the patient was taken by train to Denver, and transported by ambulance to St. Anthony's Hospital. Condition on arrival bordering on collapse. Further and necessarily hasty examination revealed the accumulated hemorrhage increased to some five pints, and there was found fragmentation of the scapular, and of most of the ribs posteriorly on this (the right) side. Some ribs were evidently broken in several places; and it was further evident they had torn the lung, as blood now came



up through the mouth. The patient, a Syrian, did not understand English, and because of great anguish threw himself about in spite of admonitions. Operation was considered, but the circumstances connecting gave slight chance of benefit, and it was regarded the better procedure to increase the resistance of the right chest wall with more adhesive straps. He died about an hour later. Such cases seldom arise. Would you have done otherwise?

The Secretary reported that he had in keeping for the society the records for 1871 to 1880 (inclusive) of the first medical society formed in the Territory of Colorado, which was designated "The Medical Association of Denver," and held its first session April 11, 1871. The records had casually come into the possession of Dr. Henry Sewall, who presents them to the Medical Society of the City and County of Denver.

Dr. J. N. Hall said there was some discussion among the members of the State Board of Health concerning the advisability of having cases of tuberculosis re-

ported to the Board. Dr. Hall moved that cases be reported, in some manner, to said Board. In the discussion that followed, Dr. Hall said he made the motion for the purpose of bringing on discussion and calling forth the opinion of members of the society. Although some of the discussion was adverse to the motion, there was no opposing vote when the question was put.

Dr. F. Gillette Byles made a motion expressing the approval of the society regarding the announcement of certain local pharmacists that they intended to conduct their business on lines strictly ethical toward the medical profession and the public. The motion was unanimously carried.

Dr. Miel said that the medical profession ought to take energetic measures to have pharmacists observe the laws regarding the sale of poisons to the public and ought to seek more stringent legislation on the subject. Dr. Moleen recited in detail the history of such legislation in Colorado.

On motion the society adjourned.

## BOOK REVIEWS

**Psychiatry.** A text book for students and physicians. By Stewart Paton, M. D., Associate in Psychiatry in the John Hopkins University, Baltimore; Director of the Laboratory, The Sheppard and Enoch Pratt Hospital, Towson, Maryland. Philadelphia and London, J. B. Lippincott Co., 1905. Price, \$4.00.

This work comprises the most important addition to American psychiatry that has appeared in recent years, or, more specifically stated, since the practically universal adoption of Kraepelin's classifications of insane conditions. Paton modifies somewhat, as have others, the classification of the Heidelberg school in accordance with deviating conceptions of certain groups of cases; but happily the author's conservatism has not permitted him to depart radically from Kraepelin's clear-cut clinical forms, although the latter may fall

at times to record all nuances of the types discussed.

The author eliminates, with no regret on the part of the reader, all metaphysic introspection to explain insane conditions, while he reviews at length the work of modern clinical psychology in relation to mental disease. If the latter study has not thus far greatly aided in elucidating problems of clinical psychiatry, the fact alone that its investigations are based upon the study of symptoms, assures us that its results can never remain as barren as regards the etiology of insanity as the purely speculative psychology which preceded it. In this volume the student is brought in touch with the most recent conclusions in this field, yet the author does not fail to point out the insufficiency of the psychological method alone, the danger of restricting study of a disease to the minute analysis of symptoms at any given

period as against the need of a general survey of the whole course of the malady. This is sound opinion in accordance with the dictum that, with present day lack of an exact psychiatric pathology, conclusions as to mental alienation must ever reckon with "causes, so far as known, course of disease and character of its termination."

The portion of Dr. Paton's work devoted to clinical descriptions of recognized insane types is also eminently satisfying. The discussion is comprehensive, the text is never padded, the literature of each chapter thoroughly reviewed. The last statement may, perhaps, be said to suggest the character of the book as a whole, in that the entire subject is treated, not so much from the standpoint of a single clinical experience, as from that of an aim to present a symposium of conclusions of many observers. Of especial value are the chapters upon such types concerning which new, definite conceptions are crystallizing; as, for instance, upon dementia precox, the unity of maniac depressive forms, upon the supposedly stable syndrome, paranoia, etc. There is much future of good omen for psychiatry in studies which compel rearrangement of disease entities because of increasing clearness of clinical understanding.

Altogether, it may be said the author's labors were determined by a broad conception of the subject in hand and that amply and in a sustained manner these place before the student a comprehensive text book which it is a pleasure to commend.

B. O.

**Infectious Diseases.** Edited by J. C. Wilson, A. M.; M. D., Professor of Medicine in the

Jefferson Medical College; Physician to the Jefferson and German Hospital, Philadelphia; Physician to the Jefferson and Pennsylvania Hospitals, etc. An authorized translation from "Die Deutsche Klinik," under the general editorial supervision of Julius L. Salinger, M. D., with two colored plates and sixty illustrations in the text. New York and London. D. Appleton & Company, 1905.

This volume of almost a thousand pages is practically a translation of monographs upon infectious diseases written by the best German authorities of the various disease entities discussed. A list of contributors which includes observers such as F. Klemperer, Loeffler, Heubner, Eichhorst, Baginsky, Hoppe Saylor, Penzoldt, Nicolai and others of like note, necessarily makes for a high standard of literature which the reviewer finds is amply realized in the fairly encyclopaedic character of the individual essays. In one respect only must this view be modified. Inasmuch as the original publication in "Die Deutsche Klinik" failed to include every disease at present known to be infectious, it devolved upon the American editors to fill in certain gaps to complete the collection. The latter contributions are less voluminous than those which represent translations from the German; nevertheless they are excellent chapters which present all essential facts concerning the maladies discussed. The volume is thoroughly up to date and therefore may be recommended as an excellent reference book of a branch of internal medicine which, because of steady progress in the fields of bacteriology and specific serum treatment, requires some alertness on the part of the practitioner to be abreast of the times.

B. O.

#### DR. FOSTER'S NEW ASSISTANT.

E. R. Conant, M. D., formerly of Maine, but who has been in Europe for the past year and a half, will arrive in Denver about November 1st. He has accepted an important position with Dr. J. M. Foster, whose eye and ear practice has been getting too exacting to handle alone. Dr. Conant comes here with the best of credentials, and the Denver profession will be glad to welcome him to its ranks.

especially the July and August numbers, that we fear some shipment may have gone astray. We have a fair size stock on hand of both numbers, and will gladly furnish missing copies without charge. Remember we have no way of knowing of omissions unless you notify us.

Dr. N. J. Phelan, whose initials stand for the state of his nativity, is a new arrival in Denver, having opened offices in the Barth block. The doctor comes from a section where it is against the recognized code of ethics to treat anyone to anything, but it isn't his intention to inaugurate this system in Denver.

#### ARE YOUR FILES COMPLETE?

So many complaints have been received regarding missing copies of The Journal, and





**MELVILLE BLACK, M.D.**

**THE NEW SECRETARY OF THE  
COLORADO STATE MEDICAL  
SOCIETY**

**OFFICE 1007 E.  
10th St.**

# The Colorado Medical Journal

AND

## WESTERN MEDICAL AND SURGICAL GAZETTE

A SCIENTIFIC MEDICAL JOURNAL, DEVOTING SPECIAL ATTENTION TO TUBERCULOSIS  
AND CLIMATOLOGY—A JOURNAL OF SCIENCE, OF NEWS, AND OF MEDICAL LORE

VOL. XI

DENVER, COLORADO, NOVEMBER, 1905

No. II

## ORIGINAL ARTICLES

### THE PHYSICIAN'S PARAMOUNT DUTY TO THE PATIENT AND FAMILY IN PULMONARY TUBERCULOSIS \*

By C. P. AMBLER, M. D., Asheville, N. C.

As a profession we have for generations practiced medicine in so liberal a sense of the word that we have been far too quick to prescribe, and, in the bustle and hurry of active practice, have failed to grant to the patient the time that his case generally requires and should be accorded. We are to be censured for having taught the public to believe that each disease has its medicine or "cure." Our preceptor believed in "placebos" and prescribed such in numerous instances where no medicine was really indicated. This practice is in great part dying out, but as we have discarded this foolishness we have fallen into the greater error of depending upon drugs or so-called or considered "specifics."

It is an unfortunate fact and disgrace to our profession, both of city and country, that a large number of the consumptives living among us to-day have been "treated" for months, and in many instances for years, before the true nature of their malady was recognized; that symptoms which should have been recognized and should have at once aroused suspicion of tuberculosis have either been neglected or attributed to other causes.

Thus, during the early stages of the disease, by our own carelessness, have we, in thousands of cases, robbed the trusting patient of every chance for recovery, while we plied him with "tonics" and cough remedies.

Thanks to the medical requirements now enacted by all our states, this practice is not the result of ignorance on the part of our profession. It is, however, to our discredit that it can be traced too often to carelessness. We have not taken the time to thoroughly investigate: in malarious districts, slight chills and fever have been attributed to ague, while a blood examination would have shown this not to be the case; coughs have been bronchial and syrups prescribed; blood-spitting has "come from the throat" because the examiner could not detect the presence of disease in the chest by placing his ear against the chest, fore and back, over several thicknesses of clothing. Temperatures, taken once a day for several days, have been regarded as always normal because they were so found at the time taken; loss of weight has been indication for tonics; suppressed menstruation has meant uterine trouble: a dry, hacking cough has meant laryngitis; and pains in the chest, intercostal neuralgia.

\*Read before the American Anti-Tuberculosis League, Atlanta, Ga., April, 1906, and appearing exclusively in the Colorado Medical Journal, in which it is copyrighted.

But rarely indeed do physicians point out to-day to the head of the family in which occurs a case of tuberculosis the necessity of examining each and every member of the family periodically for several years after the initial case has died or recovered. And yet, right here is where the most brilliant results are being accomplished by men who are careful and thoughtful.

It is not the purpose of this paper to censure the profession, but, as this association is organized for the prevention of consumption, I wish to place myself upon record in your halls as advocating that the best means of "preventing consumption" is to discover the tuberculous disease in the patient before the stage of consumption has been reached.

Consumptives are persons dying with a tuberculous disease. Not one case in 500 fails to consult a physician on account of some symptom or other long before the disease is far advanced. Tuberculosis *is not* the fatal disease that past generations have regarded it. It can be proven that a great number who develop the disease recover without discovering that they have ever had it. Formerly it was rarely discovered before the patient was in a dying condition. Such cases promptly died, and do to-day, with the result that the laity has grown, or been taught by us, to believe that the disease means death.

We are awakening in this country to the realization that this disease is the greatest destroyer among us to-day. One in every six or seven of our deaths is due either directly or indirectly to this disease. Of a given number of cases which have occurred in your practice individually, in how many instances did you discover the disease before the destruction of lung tissue had already occurred? Go further—in those cases not discovered early, was it not due to one of two facts, either the patient did not consult you

until the disease was advanced, or, as you look back, was not your own carelessness and hurry the cause of the delayed diagnosis?

Our states may legislate, our national government may investigate, our philanthropists give their millions, and as physicians we may organize such societies as this, but in the end the only way it can at present be logically met is by the physician individually.

If we as physicians would recognize the disease earlier the battle would be over half won. It will continue to be thus; if we fail to do our duty in the future as our confreres have done in the past, the disease will go on unchecked.

Next to an early diagnosis the most important point for the physicians is the instruction of the patient. So long as the cowardly evasion of the truth to the patient be continued by our profession, we must expect to see the disease become more widespread. The profession over the country is not as a rule telling the patient the truth. Those of us who reside at health resorts find that only those men in our profession who are giving this disease careful and close consideration tell the patient the truth and instruct him regarding the disease, his danger to himself and to others, and point out the necessity for recovery. The rank and file of our profession, especially in the rural communities, apparently believe that the truth will damage the patient; and when they have carried him the whole length of drug and dope administration, have robbed him of every opportunity for recovery by not instructing him and pointing out the path to recovery, they send him away from home in a dying condition, loaded with stinking and nauseating drugs and directions to eat and exercise, to keep away from resort doctors and report once a month to them by letter.

The truth told the patient, with explanations and proper instructions, does

not harm him. In fact, in these two points lies the secret of successful treatment of this disease. Our first duty to the patient from my point of view is to tell him the truth, and then take the time to instruct him; to point out wherein he improves; to teach him wherein he is a source of danger to himself as well as others, and especially to show him this danger is as nothing, practically, if your directions be carefully followed and carried out. With the interest in this disease now developing we are going to the extreme: as we have groped in the dark and seen the multitudes die in the past; die, yes, in many instances, because we considered the disease fatal, not realizing that the fault lay in ourselves in not discovering the true nature of the trouble earlier; die, yes, as we stand apart with the friends and look upon it as a part of the ways of God. Our inaction, our do-nothingness, our know-nothingness of those days was one extreme, and now we are educating the public to another.

Already the consumptive is an outcast, publicly to be shunned. The average consumptive *should* be kept from the public places and gatherings; but now, when it becomes known that a person has tuberculosis, be it ever so slight, he is in many quarters looked upon as a leper, to be avoided as death itself. This is unjust to the patient, and is the result of telling only part of the truth by the physician and those who are waging the crusade against the disease.

The patient, his friends, his family, and the public generally should know wherein he is in danger to himself and to others. The family should receive instructions from the physicians for their safety, and as long as the patient observes the rules laid down he should not be ostracized, or made to feel that he has no place among men. The secret of prophylaxis and successful treatment lies in the instructions given by the physician to-

gether with the hearty co-operation of the patient and family.

The success met with in institution treatment and the administration of so-called specifics (which require the constant attendance of the physician) is the result of the constant supervision, careful instructions, and management of the patient, far more than any other means, or the specific applied. This being true in the institution, similar methods should be applied to our outside cases, to the fullest possible extent. The patient with a good heart, a good stomach, an early diagnosis made and sufficient means of support for several months without worry, violent or prolonged exertion, will permanently recover in 90 per cent. of the cases.

The day may come when we can as successfully vaccinate against tuberculosis as we do to-day against smallpox. Until this day arrives prevention will mean prophylaxis. Prophylaxis will mean three things:

Earlier diagnosis.

Instruction of patient.

Instruction of family and friends.

This practically brings the whole matter home to the physician as it has been in the past. Will we go on as we have done in the past and depend upon our drugs to cure, while our uninformed and slowly rotting fellow creature spreads the seeds of his accursed disease in the home, on our streets, in our public places of meeting and worship; while we, as physicians, raise no protest when even our butchers and our bakers, while they themselves are suffering from the disease, are allowed to handle and sell to the public the food stuff of life?

Just now, the proper fad is an outdoor life: no one who understands the disease will oppose a life in the open air, but here as elsewhere, the advice of the physician will be everything if success is to reward our effort. It will not do to tell your

patient to go to Colorado, New Mexico, or North Carolina and live out of doors. To live an intelligent outdoor life and not run great risks of furthering the trouble rather than lessening it, is a question requiring the most careful considerations, preparation and intelligence.

Our average citizen has not this knowledge, and unless we go into detail and *explain, instruct, supervise, caution, encourage*, and keep up the same everlasting vigilance, we will fail here as we have so often failed in the past when using other means and neglecting the one great question of all.

This convention will doubtless appoint a committee to draft resolutions embodying our idea as to the best means of preventing tuberculosis and consumption.

As a summary of my paper, and in conclusion, I wish to present to this body a few points which, in my opinion, should

be embodied in such resolutions, if adopted:

1. Tuberculosis is not the fatal disease commonly believed.

2. While communicable, it can practically be made innocuous by the proper course on the part of the patient.

3. The chief cause of the large mortality is late diagnosis.

4. Late diagnosis is caused by indifference of patient to early symptoms and carelessness on the part of the physician consulted.

5. By thorough systematic instruction of the patient, better results can be accomplished than by medication.

6. Instruction of patient, family, and friends, and close observance on their part of the rules laid down will practically rob the disease of its method and means of extending.

#### TRANSACTIONS

Of the Thirty-fifth Annual Meeting of the Colorado State Medical Society, Colorado Springs, Colorado, October 2, 3, 4 and 5, 1905.

[From original stenographic notes taken specially for the Journal and carefully revised by the officers of the State Society.]

#### MINUTES OF THE HOUSE OF DELEGATES.

Meeting called to order at the Sun Room, Antlers Hotel, Monday, Oct. 2, 1905, at 8 o'clock, by the President, Dr. Frank Finney.

Upon roll call the following delegates were present:

Boulder County—E. B. Queall, J. H. Cattermole.

Denver—J. N. Hall, Melville Black, T. M. Burns, Edward Jackson, W. A. Jayne, E. W. Stevens, S. Simon, John Chase.

El Paso County—H. W. Swan, P. F. Gildea.

Fremont County—W. T. Little.

Las Animas County—J. G. Espey.

Montrose County—Carl Johnson.

Otero County—Jessie E. Stubbs.

Pueblo County—H. A. Black, C. Epler.

Weld County—C. H. Call.

There being a quorum present the meet-

ing was declared organized and ready for the transaction of business.

Moved by Dr. Blaine, duly seconded and carried, that the minutes of the last regular meeting as printed be adopted.

#### REPORTS OF OFFICERS.

DR. BLAINE (Secretary).

*Mr. President and Gentlemen:*

I will have to beg the indulgence of the Society for not having a written report this year. It is usual to wait, before preparing this report, until I have all the reports from the constituent societies. There are two societies that have not yet reported, and I waited until the last minute for them, and they did not get in, hence my report will be more or less extemporaneous.

Boulder County this year reports a membership of 40, the dues of all of which are paid.



Delta County reports a membership of 12.

Denver County, 197.

Eastern Colorado, which is the only new Society organized this year, comprising the three counties on the Burlington line, Morgan, Washington and Yuma, have organized there to meet four times a year, at Yuma, Akron, Brush and Ft. Morgan. They have a Society of 12 and everything promises that they will have an active society there. They have had all of their meetings regularly since last January. I was out at their April meeting helping them to complete their organization, and they mean business.

El Paso County reports 51 members paid.

Fremont County reports 19.

Garfield County, 13.

Lake County, 17.

Larimer County, 20.

Las Animas reports 25.

Mesa County, 12.

Montrose County, 6.

Northeastern Colorado, organized at Sterling last year, has a membership of 5, and I believe that is all that is accessible, but they stick together.

Otero County, 20.

Ouray County reports a membership of 5, which I believe is every one eligible in the County.

Pueblo County reports a membership of 40.

San Juan and La Plata have not yet reported.

San Luis Valley has a membership of 17.

San Miguel has a membership of 6.

Teller County has a membership of 20.

Weld County has a membership of 19.

This makes a total reported membership of 556, which nets the sum of \$1,668.00

This, I think, is sufficient for a Secretary's report. There is only one point in

the State in which a Society could be organized, and an attempt was made last year to organize in the Clear Creek Valley. They held one or possibly two meetings and apparently disbanded because I never could get any more information from them. I thought last year that there should be a Society at Salida and I wrote to several of the physicians there, but they thought it was impossible to maintain a Society, so most of them have gone to Lake County and joined there. The same is true up at Breckenridge. I tried to get enough up there to form a society but they have gone down to Lake County. So the State is pretty well organized now, with the exception of the Clear Creek Valley. There ought to be a society that would take in the men at Idaho Springs, Georgetown, Empire, Central City and Black Hawk, but as I say, they made an effort and fell down.

Moved by Dr. Jayne that the report be received and placed on record. Seconded and carried.

Owing to the absence of the Treasurer his report was laid over.

#### REPORT OF COMMITTEES.

Dr. Jackson, Chairman of the Publication Committee, presented the following report:

#### *Report of Publication Committee.*

Since the last annual meeting twelve numbers of *Colorado Medicine* have been issued, comprising in all 368 pages. Of these 48 pages have been devoted to advertising, and to covers upon which various lists and announcements of current interest were printed. Of the remaining 320 pages, comprising the body of the journal, 170 pages have been devoted to publishing papers read before the last annual meeting of the State Society, with its minutes, the proceedings of the House of Delegates, reports, etc. Ninety pages have been given to the reports of the

County Societies and the papers read before them. Reports of other medical societies, including the American Medical Association, have comprised 23 pages. Editorials, reviews of books, etc., occupied 37 pages, these being the work of 14 writers. The number of volumes received for review, and subsequently noticed in the journal, has been 47.

With the completion of existing advertising contracts in December, 1904, all advertising matter was excluded, and the journal secured entry as second class matter, under the Act of July 16th, 1904, applying to periodicals without general advertising. The advertising had yielded about \$14.00 per month. The saving in postage secured by second class entry is about \$10.00 per month.

At the beginning of the year we were met by an increase in the cost of publication of somewhat over 10 per cent. In spite of this the expense to the Society has been kept within the appropriation made last year. The bills for printing and second class postage amounted to \$974.90. For additional postage, including the postage and delivery in Denver through the year, and addressing of wrappers, \$88.85. For electrotypes, \$24.75. For certified copy of the Charter of the Society obtaining second class entry, \$2.50. Total, \$1,091.00.

On the other hand there was collected for advertising \$150.25, making the net cost of the journal to the Society, including the Editor's salary, \$1,240.75. It is believed that under present conditions this is as small an expense as we can hope for in the publication of such a journal.

Your Committee feel that the present policy of publishing the journal without any advertising matter gives it a dignified position distinctly higher than that of the mass of medical periodicals, and worthy of an earnest, independent, scientific body. If, however, it is desired to offset

the expense by the admission of advertising matter, to obtain second class entry at the P. O. under the law applying to periodicals that publish advertising, it will be necessary for the House of Delegates to amend the by-laws so as to designate a certain sum, say \$2.00 per year, of the total received from each member as a subscription to the journal. Such action, it is believed, would meet both the letter and the spirit of the postal laws, permitting the printing of advertisements without sacrificing the advantage of the one cent per pound rate for postage.

EDWARD JACKSON, *Chm.*  
C. E. EDSON.

DR. JAYNE: As the publication of our official journal is one of the most important details of business with which this House has to do, I do not know that I am sufficiently familiar with the subject to discuss the matter at the present time, and possibly others of the House of Delegates feel the same way. I believe that this matter of the journal and its future policy along the lines of the suggestions of the report and possibly on other lines might very profitably be taken up by this House and considered at length, and in order that this matter may be presented to the House in a definite manner. I move that the President appoint a committee of three as a committee of reference to which this report and the subject of the publication of the journal, and its policy, shall be referred for investigation and consideration and to report not later than Wednesday morning.

Seconded and carried.

The President appointed as such committee Dr. Jayne of Denver, Dr. Little of Canon City and Dr. Swan of Colorado Springs.

Dr. Blaine presented and read the following communication from the Reed Publishing Co., of Denver:

## THE COLORADO MEDICAL JOURNAL.

September 29, 1905.

J. M. Blaine, M. D.,

Secretary Colorado State Medical Society, Steele Block, City:

Dear Doctor:

Since we bought the COLORADO MEDICAL JOURNAL, we have been frequently asked if any proposition was to be made by us to the forthcoming meeting of the Society at Colorado Springs, bearing on the question of *Colorado Medicine*, and the publication of the Transactions in book form, as was formerly done. These queries have led us to believe that perhaps some proposition of mutual advantage would be acceptable to the Society.

We therefore submit the following:

(1) If the Society will give us exclusive use of the papers to be presented at the next annual meeting, the same as they have been doing with *Colorado Medicine*, we will publish and bind the same in full linen cloth, under the supervision of the Secretary of the Society, in identically the same form in which it was formerly printed and bound, without charge to the Society, furnishing the Society 100 complete copies of same, without charge (for the use of its officers, exchange purposes with other societies, etc.), we to furnish copies of said Transactions to any member of the Society in good standing, who may desire same, at \$1.00 per copy. This proposition does not contemplate preventing the publication of the papers above mentioned in *Colorado Medicine* if said publication is continued, nor delaying the publication of the Transactions till the end of the year—but the early publication of the same.

(2) Should the Society desire to curtail the expense of printing *Colorado Medicine*, we would consolidate the same with our journal, all matter contained in said journal to be under the supervision of the Publication Committee of

the State Society, providing either the Secretary of the State Society or our Consulting Editor, T. Mitchell Burns, M. D., be placed upon your Publication Committee.

Believing that ethical advertising pages are almost as important as ethical scientific pages to the modern medical magazine, we would suggest that the Secretary of the Society and our Consulting Editor be selected as a Board of Censors to pass upon all advertising matters.

Should the State Society desire to send such consolidated magazine to each member of the State Society, we would furnish same at a fraction over 4 cents per copy, or 50 cents per year, as against a cost of 21½ cents per copy, as at present. In addition to this, the membership would receive a journal of 80 or more pages, instead of 16 or more pages, and the total cost to the Society would be:

600 annual subscriptions for present membership . . . . .	\$ 300
Salary of Editorial Member of Publication Committee . . . . .	300

Total . . . . .	\$ 600
Saving to Society . . . . .	1,200

(3) Reprints. Should either or both of the above propositions be accepted, we would agree to furnish reprints of the papers at the same price charged by us in 1902, notwithstanding there has been an advance in the price of printing of fully 15 per cent. since that period.

We have just completed the formation of our Editorial Staff for the coming year, which comprises about 75 of the most prominent members of the Society in the State, which staff would work in conjunction with your Publication Committee. We mention this fact to indicate that it is to be the policy of The Reed Publishing Company, who are now the sole owners of THE JOURNAL, to not confine ourselves to the papers of the State Society in case they should accept the above,

but that we propose to give the profession the opportunity of supporting a big, strong, ably-edited magazine, every issue of which will be full of good things of general interest to the membership, and we desire to assure you, and through you the State Society, that whether or not you should desire to accept any or all of the propositions herein outlined, and whether or not the State Society should consider it desirable to continue the publication of *Colorado Medicine* independently, the COLORADO MEDICAL JOURNAL will always be found willing and anxious to aid the Society and its officers in any way possible.

Cordially yours,

THE REED PUBLISHING COMPANY,

By H. J. Reed,  
Pres't and Mgr.

P. S. Should the State Society desire as many as 600 copies of the Transactions we would furnish same at \$300, with the privilege of publishing the papers in the COLORADO MEDICAL JOURNAL.

Without the latter privilege it would cost approximately \$1.00 per copy, or \$600.

H. J. REED.

The President ordered the above communication referred to the special committee above appointed.

The Committee on Scientific Work offered as the result of their work the program.

Dr. Blaine moved that the House of Delegates authorize the President and Secretary to grant a charter to the Eastern Colorado Society.

Carried.

As the Chairman of the Committee on Public Policy and Legislation was not present, the report was deferred.

Report of Committee on Necrology ordered to be read before the full Society.

Dr. Jayne, Chairman of Committee on Organization, read the following report:

# REPORT OF COMMITTEE ON ORGANIZATION TO THE HOUSE OF DELEGATES, 1905 MEETING.

## *To the House of Delegates:*

Gentlemen—In pursuance with the objects of its appointment at the last annual meeting your Committee on Organization in November, 1904, addressed a circular letter to the President, Secretary and members of each constituent medical society in Colorado.

This letter explained briefly the plan of organization of our National, State and County Societies, their intimate correlation, and called attention to the fact that, with a view of remedying certain defects noted in the operation of our organic laws and enabling the several societies to co-operate more effectively in forming a successful State Society, our by-laws had been revised and revision of the constitution had been passed by this body subject to adoption at this 1905 meeting. It was also urged that the relations of the County and District Societies with this central body should be intimate and cordial, and in order that their officers might co-operate promptly and without friction the adoption of certain uniform rules by all constituent societies was necessary.

To this end your Committee formulated the following recommendations and advised that they be adopted and incorporated into the laws of each society if not already contained therein:

"1. That the annual meeting and election of officers be held in January of each year, and as soon after the first of the month as convenient.

"2. That it shall be the first duty of the Secretary, after the annual meeting, to report the list of officers elected by the Society to the Secretary of the State Society.

"3. That the annual dues be made payable January 1, and delinquent July 1 of each year.

"4. That all members delinquent in dues on July 1 shall, without action of the Society, be held suspended and not in good standing.

"5. That it shall be the duty of the Secretary to make his annual report to the Secretary of the State Society not later than September 1 of each year. (See Chapter XII, Section 8, Revised By-Laws.)

"6. That delegates to the State Society shall be elected for a term of two years, and any Society entitled to more than one delegate elect one-half, as near as may be, each year. (Chapter V, Section 2, Revised By-Laws.)

"7. That 'Every reputable and legally qualified physician residing within its jurisdiction, who does not practice or claim to practice and agrees not to practice sectarian medicine,' shall be entitled to membership. (Chapter XII, Section 5, Revised By-Laws.)

"8. That a member of a constituent society of this State be accepted by another constituent society upon presentation of a proper transfer card, without delay or duplication of dues."

Your Committee is pleased to report that these suggestions were cordially received and promptly adopted in toto by all the larger, active County and District Societies, to wit: Boulder, Delta, Denver, El Paso, Fremont, Las Animas, Lake, Larimer, Montrose, Otero, Pueblo, San Juan, La Plata, San Miguel, San Luis Valley, Teller and Weld. Mesa County accepted all except No. 6, the majority of its members preferring to elect delegates to this House for a term of one year instead of two.

It would appear that there remain only four societies, and these small, with infrequent meetings, which have not yet taken action. Ouray has taken no action. Garfield and North East have answered so vaguely as to leave the impression that they have not yet adopted the Committee's

recommendations, and the Eastern Colorado Society was formed last Spring and has been too recently advised of the revision of our By-Laws and of the rules suggested to adopt them.

It would thus appear that the efforts of your Committee to carry out your instructions have been eminently successful, and that the laws governing constituent societies are now so thoroughly in accord with those of the State Society that it only remains for the officers of the various societies to be active in their duties under their Constitution and By-Laws to make our composite society a popular and valuable organization as a whole, and to each and every member.

In view of the fact that so little of this work remains to be done, your Committee begs to suggest that it be discharged, and that the Secretary of this Society be instructed to urge the four societies named, to wit: Ouray, Garfield, North East, and Eastern Colorado, to adopt the recommendations of this Committee as contained in its circular letter to be found published in full in *COLORADO MEDICINE* of November, 1904.

Respectfully submitted,

W. A. JAYNE,  
Chairman.

EDWARD JACKSON,  
J. M. BLAINE,  
Committee.

Colorado Springs, October 2, 1905.

Moved by Dr. Chase that the report be adopted as read.

Carried.

Dr. Jackson, Chairman of the Special Committee to look into the Charter of the Colorado State Medical Society, made the following report:

#### REPORT OF THE COMMITTEE ON CHARTER.

Your Committee appointed at the last annual meeting to look into the matter of the charter of the Colorado State Medical Society respectfully reports:

There is on file in the office of the Secretary of State of Colorado the following document which was certified November 1st, 1888:

We, the undersigned, severally members of the Board of Trustees of the Colorado Territorial Medical Society, a corporation organized and existing under the laws of the Territory of Colorado, desiring to become a body corporate under the laws of the State of Colorado, do hereby certify in duplicate as follows, viz.:

1. That the corporate name of the said association shall be "The Colorado State Medical Society."

2. That the objects of said Society shall be to promote the usefulness, honor, and interest of the Medical Profession; to enlighten and direct public opinion in regard to the duties, responsibilities and requirements of medical men; to excite and encourage emulation and concert of action in the profession of medicine, and to facilitate and foster friendly intercourse between those who are connected with the said profession and to promote the diffusion of useful information pertinent thereto.

3. The Trustees of said Society shall be seven in number, and Dr. H. A. Lemen, Dr. Jacob Reed, Jr., Dr. J. C. Davis, Dr. A. Stedman, Dr. W. R. Whitehead, Dr. L. E. Lemen and Dr. W. E. Wilson are hereby designated as the Trustees, who shall manage the business and concerns of the said association for the first year of its existence.

4. The term of the corporate existence of the said association shall be perpetual.

5. The business and concerns of said Society shall be carried on in all the Counties of said State, and its chief office shall be in the City of Denver, in the County of Arapahoe in the State aforesaid, unless legally changed to some other place.

6. The Trustees of said Society shall

have the power to make such prudential by-laws, not inconsistent with law, as they may deem proper from time to time, for the management and disposition of the business and concerns of the said association.

In witness thereof, we have set hereunto our hands and seals on the 31st day of October, A. D. 1888.

A. STEDMAN, (Seal)

J. CULVER DAVIS, (Seal)

W. R. WHITEHEAD, (Seal)

JACOB REED, JR., (Seal)

H. A. LEMEN, (Seal)

W. E. WILSON, (Seal)

L. E. LEMEN. (Seal)

State of Colorado, }  
County of Arapahoe, } ss.

Attention is called to the fact that the contents of our charter appear to have been overlooked in framing the present Constitution and By-Laws of the Society. The name and objects of the Society being stated in the charter, articles in the Constitution referring thereto, while in general harmony with the charter, appear to be superfluous. It will also be noted that the charter provides for seven Trustees who are charged with the duty of making the By-Laws. While it must be assumed that the Trustees last chosen still hold office under the charter, it would seem essential in order that the Society shall continue to act under its original charter, that their successors should be chosen at this meeting; that the By-Laws already approved by the Society should be ratified by the Trustees, and that provision should be made in the By-Laws for the election of Trustees and the specific duties they should perform.

From the proceedings of the Society it appears that the Trustees last chosen in accordance with the charter are: A. Stedman, W. E. Wilson, E. J. A. Rogers, and J. N. Hall of Denver, H. Work of Pueblo, and S. E. Solly of Colorado.

Springs. The late Dr. J. T. Eskridge was, also, one of the Trustees.

Respectfully submitted,

EDWARD JACKSON,  
CRUM EPLER.

Moved by Dr. Jayne that a special committee of 5 be appointed by the President to consider the subject of this report, and also the subject of any desirable amendments to the charter, and to report not later than Wednesday morning.

Carried.

The President appointed as such special committee Dr. Jackson, Dr. Epler, Dr. Melville Black, Dr. Hall and Dr. Work.

#### UNFINISHED BUSINESS,

Dr. Jayne, member of the committee to revise the Constitution, made a preliminary report, but as there was some doubt as to whether the recommendations of said committee would conflict with the charter now in force, it was moved by Dr. Epler, duly seconded and carried, that the report of this committee be deferred until after the report of the Special Committee on the Charter was made.

#### NEW BUSINESS.

Moved by Dr. Jayne, seconded and carried, that a committee of two be appointed by the President to draft a suitable resolution expressing to Dr. S. D. Van Meter the thanks and appreciation of the Colorado State Medical Society for his unselfish and able work in securing the passage of our present medical bill.

The President appointed as such committee Drs. Hall and Melville Black.

Moved by Dr. Jayne that the President appoint a nominating Committee of 5, to nominate officers for the ensuing year.

Seconded by Dr. Epler.

This motion called forth prolonged discussion, after which Dr. Jayne obtained consent to withdraw his motion and presented the following instead: "I move that the House request the President to

present a nominating committee of 5 for the consideration of this House."

On a viva voce vote the President declared he was unable to say which side prevailed and called for a rising vote. A rising vote showed 8 for and 10 opposed to said motion, which was declared lost.

Dr. Espey moved that one name from each constituent society present be placed in the hat, and that the first five drawn out constitute the committee, and to allow Denver one delegate in any event.

Motion seconded.

Motion lost.

On motion, duly seconded, a recess of five minutes was taken in order to allow the members of the different constituent societies to caucus.

After recess there were presented the following names as candidates for members of the committee:

Denver, Dr. Jackson.

El Paso County, Dr. Gildea.

Pueblo County, Dr. Epler.

Boulder County, Dr. Queall.

Fremont County, Dr. Little.

Montrose County, Dr. Johnson.

Weld County, Dr. Call.

On motion by Dr. Jayne, duly seconded and carried, it was resolved that the House proceed to ballot for members of the committee, the five receiving the highest number of votes to be the members of committee.

The President appointed Dr. Simon and Dr. Little as tellers to receive and count the ballots.

After the ballots were counted Dr. Simon reported the following as the result.

Dr. Jackson, 17 votes.

Dr. Queall, 11 votes.

Dr. Gildea, 11 votes.

Dr. Little, 17 votes.

Dr. Johnson, 8 votes.

Dr. Espey, 8 votes.

Dr. Epler, 9 votes.

Dr. Call, 9 votes.

Drs. Jackson, Queall, Gildea and Little were declared duly elected, and another ballot was ordered for the fifth member of the committee.

The tellers announced the following as the result of the ballot:

Dr. Call, 9 votes.

Dr. Epler, 7 votes.

Dr. Espey, 3 votes.

Dr. Johnson, 1 vote.

The President announced that Dr. Call, having received the highest number of votes, was elected the fifth member of the committee.

Dr. Blaine read the following communication:

"I hereby place in your hands my resignation as a member of the Publication Committee of the State Medical Society, with the request that you place it before the House of Delegates, that they may act upon it and fill the vacancy at this meeting of the Association.

Very respectfully.

CAROL E. EDSON."

Dr. Jayne: I move it be accepted.

Seconded and carried.

Dr. Call presented the following resolutions passed by the Weld County Society:

"Weld County Medical Society in regular session assembled: Resolved, that

"WHEREAS, Colorado is the only important state not specifically demanding an examination for a state license to practice medicine; and

"WHEREAS, There at present exists an acute if not chronic congestion of the physician body; and

"WHEREAS, The law regulating the practice of medicine in Colorado grants the regularly appointed Board of Examiners the right to examine all applicants for a state license:

"Therefore, This Society does earnestly petition and request that the Board of Examiners shall exercise their full power and prerogative of requiring a written ex-

amination of each and every candidate for a state license who shall apply therefor. By so doing the Society believes that the entire medical profession will be benefited."

Dr. Call moved the adoption of the resolutions. Seconded.

Dr. Jayne moved to amend the motion by referring the matter to a special committee of three, with instructions to the committee to confer with the State Board of Medical Examiners.

Amendment seconded.

Dr. Call: I will withdraw my motion and accept that of Dr. Jayne in its stead.

Dr. Jayne's amendment carried.

The President appointed as such committee Drs. Hall, Little and Call.

On motion of Dr. Simon, duly seconded, the House of Delegates adjourned to meet to-morrow morning at 9 o'clock.

Colorado Springs, Colo., Tuesday, October 3, 9 o'clock a. m.

On roll-call the following responded: Drs. Cattermole, Chase, Black, Hall, Jayne, Stevens, Simon, Kahn, Johnson.

There being a quorum present the House proceeded with the transaction of business.

Dr. Black: The committee appointed to draft a suitable resolution to Dr. Van Meter has this to present:

The House of Delegates of the Colorado State Medical Society, in convention assembled, desires to express its appreciation of the self-sacrificing services rendered to the state by Dr. S. D. Van Meter in securing the passage of the present law regulating the practice of medicine in Colorado.

MELVILLE BLACK.

J. N. HALL,

Committee.

Dr. Jayne: I move it be accepted and the communication sent over the signature of the President and Secretary to Dr. Van Meter. Seconded.



Dr. Simon: I move to amend Dr. Jayne's motion, by inserting the words: That it shall be first engrossed, and that the amount necessary for such engrossment be appropriated by the Society.

Amendment seconded and carried.

Motion as amended carried.

Dr. Jackson, of the Nominating Committee, reported progress, and requested until to-morrow to make its report.

The President: If there is no objection, the report will be accepted and the committee given further time, and will report to-morrow morning. There being no objection, it is so ordered.

Dr. Black: I would like to offer an amendment to Section 1, Chapter VIII, of the By-Laws, which it will be necessary to lay over until to-morrow under the by-laws. I desire to amend that section by substituting the word "first" for the word "third" in the sixth line thereof, so that the section, as amended, will read as follows:

SECTION 1. The President shall preside over the general meetings and House of Delegates, and shall perform such duties as custom and parliamentary usage require. He shall deliver an address at the general meeting on the afternoon of the first day of the annual meeting upon such matters as he may deem of importance to the Society and profession; he shall assist the Councillors in building up the constituent societies and may at any time make suggestions in writing to the general meeting, the House of Delegates or to standing or special committees.

The way the section now stands requires that this address shall be given on the third afternoon; the President retires within a few moments after this address, and any recommendations that he sees fit to make for the benefit of medicine in general in this state have to lie over until the next meeting of the Association one year later before they can be acted upon, and by that time they are often

times forgotten. It would seem, therefore, advisable that the President should read his address earlier in the session so that his recommendations can be acted upon during his term of office or during the particular session in which they were made. This statement is signed by Dr. Queall and myself.

The President: Under the provisions of the By-Laws relating to amendments thereof, the proposed amendment of Drs. Black and Queall will be laid upon the table until to-morrow.

On motion of Dr. Black, duly seconded, an adjournment was taken until to-morrow morning at 9 o'clock.

Wednesday, October 4, 1905. 9 o'clock a. m.

House of Delegates called to order by the President.

Roll-call showed the following members present: Drs. Queall, Cattermole, Hall, Melville Black, Burns, Jackson, Jayne, Stevens, Simon, Phelan, Swan, Little, Kahn, Espey, Smith, Johnson, Stubbs, Black, Epler, Call and Cohen.

There being a quorum, the meeting was declared ready to proceed with the transaction of business.

The first order of business was the report of the Committee on Publication, which was presented by Dr. Jayne, the chairman, as follows:

Colorado Springs, Colo., October 4, 1905.

*To the House of Delegates:*

LADIES AND GENTLEMEN—Your Committee appointed to consider the report of the Publication Committee, after a careful consideration of all matters submitted to it unanimously recommend that this Society continue to own and publish *Colorado Medicine*.

Your committee, however, recommends that the character of the journal be changed, and the scope enlarged by increasing the income from judiciously,

properly selected advertisements, which it is estimated would add at least \$500 to the amount available. A renewed and diligent effort must be made to place our journal upon a stronger footing and improve its scientific value.

Your committee are of the opinion that it is of the utmost importance to the welfare of the Society to own and publish an official organ. Its especial value is in awakening an interest in our constituent societies, fostering their interests by bringing them in touch with each other by publishing their proceedings, and the welding together of the integral parts of the Society into an association in which all parts of the state will take an active and healthful interest.

This Society has now had three years' experience under the re-organization, and during the two years last past we have had the benefit of the journal. We see at this meeting most encouraging evidences of a renewed and active interest in the affairs of the Society, a large part of which must be attributed to the influence of *Colorado Medicine*.

Your committee is of the opinion that any arrangement to hand over the papers to another journal would be unwise. It would be still more unwise to consolidate *Colorado Medicine* with another journal whose ownership is not vested in this Society. The ethical standards of your Publishing Committee, if they expressed the prevailing views of the Society, would inevitably clash sooner or later with the business interests, especially as expressed in the advertising pages of the journal, and lead either to the introduction of objectionable matter or to a rupture, in which case the Society would be left without an organ and would be under the necessity of starting anew. No guarantee can be offered against such an occurrence, and although a five-year contract, which is proffered, he made, the provision which is insisted upon for

a mutual release at any annual meeting, would make it equivalent to a contract for one year only.

It is quite true that such a contract as offered might prove more economical for the Society, and give a bound volume of Transactions at a small price. The Society can, however, afford to appropriate a sufficient sum from its treasury to support the journal, and your committee cannot conceive of a better use for the money. *Colorado Medicine* may be bound at a cost but very slightly in excess of the fifty cents to be charged for the Transactions at the lowest offer.

Your committee, therefore, earnestly recommends that *Colorado Medicine* be continued under the Society's ownership and management, with strictly ethical advertising, along the line of the Council of Pharmacy and Chemistry of the American Medical Association, and the adoption of business methods, thus falling into accord with the policy of other State Medical Societies and their journals.

Your committee urge that each and every member of this Society should rally to the support of our struggling offspring and nurture it until it shall become lusty and strong, a journal which should not only be of inestimable value, but a subject of pride and satisfaction.

Respectfully,

W. A. JAYNE.  
W. H. SWAN.  
W. T. LITTLE.

Dr. Epler moved the adoption of the report. Seconded and carried.

Dr. Jayne offered the following resolution:

"Resolved, That the House of Delegates name the subscription price of *Colorado Medicine* as \$2 per year for all subscribers, whether members of the State Medical Society or not."

Seconded and carried.

Dr. Jackson presented the report of

the committee to which was referred the report of the Committee on Charter.

*Colorado State Medical Society, House of Delegates:*

The committee to whom was referred the report of the Committee on Charter suggest the following amendments to the Constitution and By-Laws to bring their provisions in full harmony with those of the Charter.

CONSTITUTION.

Strike out Article II as superfluous, Article II to be entitled Article I, General Purposes.

Strike out the first sentence and begin the second "To attain the object set forth in its charter, this Society shall endeavor," etc., as now written.

Insert as follows:

ARTICLE II.—TRUSTEES.

The Trustees of this Society shall be chosen by the House of Delegates in the manner prescribed for the election of officers. They shall consist of the President, the two ex-Presidents who have last preceded him in office, and four members, two to be chosen each year for a term of two years. All vacancies in the Trustees shall be filled for the unexpired term. But no member shall be chosen Trustee who has not served two years in the House of Delegates.

Article XII. Add "and provided that such amendment shall receive the written approval of a majority of the Trustees."

By-Laws, Article XV. Add "and provided that such amendment shall receive the written approval of the majority of the Trustees."

MELVILLE BLACK.

CRUM EPLER.

EDWARD JACKSON.

J. N. HALL.

Moved by Dr. Jayne that this report be referred to the committee which has been in existence the past two years on

Revision of the Constitution and By-Laws, and that the decision of the committee be considered as the action of this House. Seconded and carried.

Dr. Little offered the following amendments to the By-Laws:

To amend Section 3, Chapter VI, by striking out the word "third" in the second line and inserting therefor the word "second," so that the section as amended would read:

"Section 3. No new business shall be introduced after the second day of the annual meeting except by unanimous consent, and such new business shall require a unanimous vote for final action."

Also to amend Section 1, of Chapter VII, by striking out the word "day" in the first line and inserting therefor the word "meeting;" also striking out the word "meeting" in the second line and inserting therefor the word "session," so that said section as amended would read as follows:

"Section 1. On the first meeting of each annual session the House of Delegates shall select a Committee on Nominations consisting of five delegates, no two of whom shall be from the same constituent society. This committee shall prepare a ticket nominating two members of the Society for the office of president and at least one for each of the other offices to be filled, delegates to the American Medical Association, member of the Publication Committee, and a time and place of meeting for the following year, and report the same to the House not later than the second day of each annual meeting. Additional nominations may be made by delegates from the floor."

Under the section of the by-law relating to amendments thereto, the amendments proposed by Dr. Little were laid on the table until to-morrow.

Dr. Epler: I make a motion to the effect that this committee on revision be

given authority, after making such investigation as they see fit, legal or otherwise, to insert in the constitution which is now under consideration their recommendations before sending it to the constituent societies for ratification, and that this shall be considered the action of the House.

Seconded and carried.

Dr. Jayne asked permission to rise to a question of personal privilege, and stated that he wished to withdraw his name as a candidate for delegate to the A. M. A. in favor of some candidate not from the County of Denver.

The Committee on Nominations submitted the following report:

For President—H. G. Wetherill, E. R. Neeper.

For First Vice President—C. F. Gardiner.

For Second Vice President—J. M. Braden.

For Third Vice President—C. A. Ringle.

For Secretary—E. W. Stevens.

For Treasurer—W. J. Rothwell, or, if Dr. Rothwell is ineligible, F. P. Gengenbach.

Delegate to A. M. A.—H. Work.

Alternate Delegate to A. M. A.—G. H. Cattermole.

Councillors—Dr. Frank Finney, Dr. E. T. Boyd.

Publication Committee—Dr. E. Jackson; to fill vacancy caused by resignation of Dr. Edson, Dr. J. R. Arneill.

Place of Meeting—Denver, first Monday in October, at 8 p. m.

Trustees—A. Stedman, W. E. Wilson, E. J. A. Rogers, J. N. Hall, H. Work, S. E. Solly and R. W. Corwin.

The following nominations were made from the floor:

Dr. Kahn nominated Dr. E. T. Boyd, of Leadville, for the office of First Vice President.

Dr. Johnson nominated Dr. Melville Black for Secretary.

Dr. Burns nominated Dr. J. M. Blaine as member of the Publication Committee to fill the vacancy caused by resignation of Dr. Edson.

Dr. Espey nominated Dr. Jaffa, of Trinidad, for Second Vice President.

Dr. Kahn nominated Dr. Bull, of Grand Junction, as alternate delegate to A. M. A.

Dr. S. E. Solly was nominated for Treasurer.

Moved by Dr. Jackson, seconded and carried, that nominations close.

On motion an adjournment was taken until 5 p. m. to-day.

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At 5 o'clock p. m. the House of Delegates met pursuant to adjournment, and a roll call showed a quorum present.

The only business to come before the House at this meeting was the appointment of a Committee on Appropriations, and the President appointed as such committee Dr. Sol Kahn of Leadville, Dr. I. B. Perkins of Denver and Dr. Cattermole of Boulder.

On motion the House adjourned to meet at 8:30 to-morrow morning.

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October 5, 1905, 9 a. m.

Roll call showed following members present:

Drs. Queall, Cattermole, J. N. Hall, T. M. Burns, Melville Black, Jackson, Jayne, Swan, Little, Kahn, Espey, Stubbs, Slick, H. A. Black, Epler, Sheldon, Call, Johnson, Smith and Cohen.

Also, J. C. Chipman, by Sol Kahn, proxy; E. Stuver, by Sol Kahn, proxy; Dr. Solly, by Dr. Cohen, proxy; S. Simon, by Dr. I. B. Perkins, proxy.

Moved by Dr. Black that the reading of the minutes be dispensed with. Carried.

## ELECTION OF OFFICERS.

Dr. Neepor withdrew as a candidate for President.

Moved by Dr. Melville Black that, inasmuch as there was but one candidate for President, the Secretary be instructed to cast the ballot of the House of Delegates for Dr. H. G. Wetherill for President for the ensuing year. Carried.

The Secretary announced that he cast 20 ballots for Dr. H. G. Wetherill, and Dr. Wetherill was declared the duly elected President.

The members were directed to prepare their ballots for First Vice President.

Dr. Jayne raised the point of order that this being a legislative body a member of the House could not delegate his power to a proxy, and only the members present in person be allowed to vote.

The chair sustained the point of order.

The President appointed Drs. H. A. Black and Dr. Epler as tellers to collect and count the ballots.

The tellers reported the result of the ballot for First Vice President as follows:

Dr. E. T. Boyd of Leadville, 11; Dr. E. F. Gardiner, 6; Dr. Bull, 1; Dr. H. M. Cohen, 2.

Dr. Boyd having received a majority of the votes cast was declared to be duly elected as First Vice President.

A vote was then taken upon the names of Dr. Perry Jaffa and Dr. J. M. Braden for the office of Second Vice President, and the tellers announced the result of the ballot as follows: Dr. Jaffa, 14; Dr. Braden, 5.

Dr. Jaffa was declared duly elected as Second Vice President.

Dr. Jackson: There being but one candidate for the office of Third Vice President, I move you that the Secretary cast the ballot of the House for Dr. C. A. Ringle for Third Vice President.

Seconded and carried.

The Secretary announced that he cast

19 ballots for Dr. Ringle for Third Vice President, and he was declared duly elected.

A ballot was then taken upon the names of Drs. E. W. Stevens and Melville Black for the office of Secretary. The tellers reported the result of the ballot as follows: Dr. Black, 19; Dr. Stevens, 1. Dr. Black was declared duly elected.

Dr. Melville Black presented to the House the written resignation of Dr. S. E. Solly as a member of the Committee on Publication.

Moved by Dr. Espey, seconded and carried, that the resignation be accepted.

Dr. Jayne withdrew the name of Dr. E. P. Gengenbach as a candidate for the office of Treasurer.

Moved by Dr. Kahn that the Secretary be instructed to cast the vote of the House for Dr. S. E. Solly for Treasurer. Seconded and carried.

The Secretary announced that he cast 20 votes for Dr. S. E. Solly, and Dr. Solly was declared elected Treasurer.

Dr. H. A. Black moved that the Secretary be instructed to cast the vote of the House for Dr. Hubert Work, of Pueblo, for delegate to A. M. A. Seconded and carried.

The Secretary announced that he cast 20 votes for Dr. Work, and he was declared duly elected as delegate to A. M. A.

A ballot was then taken upon the names of Dr. G. H. Cattermole, of Boulder, and Dr. H. R. Bull, of Grand Junction, for alternate delegate to A. M. A.

Tellers reported the result of the ballot as follows: Dr. Cattermole, 5; Dr. Bull, 15. Dr. Bull was declared duly elected.

Dr. Cattermole moved to make the election of Dr. Bull unanimous. Seconded and carried.

Dr. Jackson moved that the Secretary be instructed to cast the vote of the House for Drs. Frank Finney and E. T. Boyd for Councillors for the ensuing term.

The Secretary announced that he cast 20 votes for Drs. Finney and Boyd for Councillors, and they were declared duly elected.

Dr. Melville Black nominated Dr. J. N. Hall, of Denver, as a member of the Publication Committee to fill the vacancy caused by the resignation of Dr. S. E. Solly.

Dr. Epler moved that the Secretary be instructed to cast the ballot of the House for Dr. E. Jackson, of Denver, as member of the Publication Committee for the full term, Dr. J. M. Blaine, of Denver, and Dr. J. N. Hall, of Denver, as members of said committee to fill the vacancy caused by the resignation of Dr. Edson and Dr. Solly respectively. Seconded and carried.

The Secretary announced that he cast 20 votes for the gentlemen named for the respective terms.

The President then announced as the next order of business the election of Trustees, and Dr. Jayne raised the point of order that under the present constitution Trustees are not a part of this constitutional body and the Society had no constitutional right to elect Trustees, and it was moved by Dr. Jayne, seconded and carried, that the House of Delegates defer any action in regard to election of Trustees until another meeting.

Dr. Jayne moved that Dr. H. A. Black's proposed amendment to Section 3, Chapter VI, be adopted. Seconded and carried.

Dr. Epler moved that Dr. H. A. Black's proposed amendment of Section 1, Chapter VII, be adopted. Seconded and carried.

Moved by Dr. Kahn that Dr. Melville Black's proposed amendment of Section 1, Chapter VIII, be adopted. Seconded and carried.

Dr. Jayne, Chairman of the Committee on Revision of the Constitution presented the following report:

## REVISED CONSTITUTION OF THE COLORADO STATE MEDICAL SOCIETY.

Revised by the House of Delegates at the 1904 and 1905 Meetings, and to be Taken Up for Final Adoption at the Denver Meeting in 1906.

### ARTICLE I.

#### Name of the Association.

The name and title of this organization shall be THE COLORADO STATE MEDICAL SOCIETY.

### ARTICLE II.

#### Object.

The object of this society shall be to promote the science and art of medicine. To this end it shall endeavor to unite the medical profession of Colorado in one effective organization for the purpose of elevating the standard of medical education and increasing medical knowledge; of enlightening and directing public opinion in regard to the problems of state medicine; of securing the enactment and enforcement of just medical laws; of promoting the welfare and friendly relations of the physicians of this State, and of uniting with similar societies of other states to form the American Medical Association.

### ARTICLE III.

#### Constituent Societies.

Those County and District Medical Societies which are organized in accordance with the general plan of organization of this society and the American Medical Association, and are in affiliation with and hold charter from this society shall be constituent societies.

### ARTICLE IV.

#### Membership.

The membership of this society shall consist of members in good standing of the constituent County and District Medical Societies of Colorado, and such honorary members as may be elected in accordance with the by-laws hereinafter provided.

### ARTICLE V.

#### House of Delegates.

There shall be a legislative and business body known as the House of Delegates of the Colorado State Medical Society. It shall consist of delegates elected by the constituent societies as in the by-laws hereinafter pro-

vided, and the president, secretary and treasurer. It shall exercise the delegated powers of the members of the Colorado State Medical Society and be the representative body of the constituent societies. It shall hold annual sessions; elect the officers of the society, and transact all the general business of the society not otherwise provided for. It shall issue charters to the constituent societies and may revoke them for cause.

#### ARTICLE VI.

##### Scientific Work.

The general meetings and sections shall be devoted to the scientific work of the society. The power to create or discontinue sections shall be vested in the House of Delegates.

#### ARTICLE VII.

##### Meetings.

The society shall hold an annual meeting at a time and place fixed by the House of Delegates.

#### ARTICLE VIII.

##### Officers.

Section 1. The officers of this society shall be a president, four vice-presidents, a secretary, a treasurer, who shall constitute the trustees as provided in the certificate of incorporation, and ten councillors.

Sec. 2. The president and vice-presidents shall be elected for a term of one year, the secretary and treasurer for three, and councillors shall be elected for terms of five years each, the councillors being divided into classes so that two shall be elected each year. All of these officers shall serve until their successors are elected and installed.

Sec. 3. The officers shall be elected on the morning of the last day of each annual meeting. No member of the House of Delegates shall be eligible to any office named in this article, except that of secretary and treasurer, and no member of the House shall hold any such office, except the president, secretary and treasurer. No person shall be elected to any such office who is not in actual attendance upon that annual meeting.

#### ARTICLE IX.

##### Funds.

Funds shall be raised by an equal per capita assessment upon the constituent societies, to be fixed by the House of Delegates, from the society's publications and in such other man-

ner as approved by the House of Delegates. The funds of the society shall be expended under the direction of the House of Delegates, and may be appropriated to defray the necessary expenses of the society; to enable committees to fulfil their respective duties; to encourage scientific investigation; to carry on its publications, and for such other purposes for the benefit of the society or profession as may be approved by the House of Delegates.

#### ARTICLE X.

##### Referendum.

Either the general meeting of the society or the House of Delegates by a two-thirds vote may order a general referendum and submit any question to the membership of the society for a vote. If the persons voting shall comprise a majority of all the members, a majority of such vote shall determine and be binding upon the House of Delegates and the society.

#### ARTICLE XI.

##### The Seal.

The society shall have a common seal, with power to break, change or renew the same at pleasure.

#### ARTICLE XII.

##### Amendments.

The House of Delegates may amend any article of this constitution by a two-thirds vote of the delegates registered at that annual session, provided that such amendment shall have been presented in open meeting at the previous annual session, and that it shall have been sent officially to each constituent society at least two months before the session at which final action is to be taken.

MELVILLE BLACK,

Secretary.

W. A. JAYNE,  
EDWARD JACKSON,  
J. M. BLAINE,

Committee on Constitution and By-Laws.

The special committee to which was referred the resolutions presented by Dr. Call reported progress and asked for further time.

Moved by Dr. Kahn that the committee be given until the first meeting of the House of Delegates next year in which to report. Seconded and carried.

Dr. Kahn presented the following report of the Committee on Appropriations:

*To the House of Delegates of the Colorado State Medical Society:*

Your Committee on Appropriations would recommend that the following appropriations be made for the ensuing year:

<i>Colorado Medicine</i> .....	\$1,100.00
Editor <i>Colorado Medicine</i> .....	300.00
Secretary of the Society.....	150.00
Secretary's postage.....	50.00
Emergency fund .....	50.00
Programmes .....	20.00

Total.....\$1,670.00

(Signed) SOL G. KAHN,  
G. H. CATTERMOLLE,  
I. B. PERKINS,  
Committee.

Dr. Epler moved the adoption of the report. Seconded and carried.

Dr. Kahn offered the following resolution from the Committee on Appropriations:

Resolved, That it is the sense of this House that the practice of paying the transportation expenses of its delegate to the American Medical Association be discontinued.

(Signed) SOL G. KAHN,  
I. B. PERKINS,  
G. H. CATTERMOLLE,  
Committee.

Dr. Jayne moved the adoption of the resolution.

Seconded and carried.

Dr. Epler moved that the Colorado State Medical Society request the alternate delegate to the A. M. A. to attend the meeting of that body. Seconded and carried.

On the suggestion of Dr. Melville Black, of Denver, the President appointed a committee of three to prepare and present to the afternoon session of the Society a resolution expressing the thanks

of the State Society to the members of the El Paso County Society for the very enjoyable and pleasant time made possible by the efforts of the local society.

The President appointed as such committee Drs. Melville Black of Denver, Sol G. Kahn of Leadville, and Crum Epler of Pueblo.

Moved by Dr. Kahn, seconded and carried, that the House of Delegates adjourn until the evening prior to the first day of the annual session next year, at 9 o'clock p. m., unless the President should call a meeting in the interim.

#### MINUTES OF GENERAL SESSION.

Tuesday, October 3, 1905, 10 o'clock a. m.

Society called to order by President Finney.

Prayer by Rev. Dr. Work, pastor of the First Presbyterian Church of Colorado Springs.

Dr. Blaine read the following communication:

Sisters of Charity, Glockner Sanitorium, Colorado Springs, Colorado.

Colorado Springs, Colo., Oct. 2, 1905.

*To the Members of the Medical Convention Assembled at Colorado Springs:*

Gentlemen—In behalf of the Sisters of Charity in charge of the Glockner Sanitorium, I wish to join in the welcome accorded you by the residents of Colorado Springs and to express the hope that your sojourn amongst us may be a season of enjoyment.

I trust that it will be possible for all the members of your honorable profession to visit this institution, where we endeavor to co-operate to the best of our poor ability with the doctors of this city in alleviating the suffering of those who seek this genial climate with the hope of regaining their health.



I desire to extend to you all a very cordial invitation and a hearty welcome to our Home.

I am, gentlemen,

Very respectfully yours,  
SISTER ROSE ALEXIUS.

Dr. Wetherill: I move the Secretary be instructed to make acknowledgment of this kind invitation to the sisters and extend the thanks of the Society. Seconded and carried.

(As the minutes of the Scientific Sessions merely mention the names of those who read and discussed papers it has been thought best to omit all but the closing minutes of the last session.—PUB. COM.)

Thursday, Oct. 5, 1905, 1:30 p. m.

Dr. Kahn presented the following motion:

Colorado Springs, Colo., Oct. 5, 1905.

In full appreciation of the expressions voiced in the President's Address, in reference to the prevention of tuberculosis, and that the State of Colorado should lead in the treatment and care of the many thousands of cases in our land, we feel that so important a subject as this coming after due and mature deliberation from our President be not passed by simply the mention thereof, but that some action should be taken in accordance with the President's suggestion.

We therefore move that a committee of 15 be appointed by the outgoing President, and that he be a member of this committee, for the purpose of devising ways and means for carrying out the recommendations suggested for the prevention of tuberculosis in Colorado, and that they report at our next meeting.

(Signed) SOL G. KAHN,  
CRUM EPLER.

Seconded by Dr. Epler and carried.

Dr. Black presented the following report of the Special Committee appointed by the House of Delegates:

On behalf of the Colorado State Med-

ical Society we desire to convey to the El Paso County Medical Society, and their Committee of Arrangements, the appreciation we feel for the elaborate and complete manner in which we have been entertained, all of which has contributed to such an enjoyable time that we shall look forward with much pleasure to an early return meeting of the State Society in your city.

We recommend that the Secretary be instructed to send to the Secretary of the El Paso County Medical Society a copy of these resolutions, and that the same shall be spread upon our minutes.

MELVILLE BLACK,  
CRUM EPLER,  
SOL G. KAHN,  
Committee.

Moved by Dr. Burns that the report be adopted. Seconded and carried.

The Secretary, Dr. Blaine, made the report of the proceedings of the House of Delegates, which appears in full herewith.

Dr. Blaine moved that all papers whose authors were present but were unable to read their papers on account of lack of time be read by title and ordered printed in *Colorado Medicine*.

Second and carried.

Dr. Blaine: I received a paper the other day with a letter from Dr. Robe, of Pueblo, stating that he was suddenly called east. I move that that also be included. Seconded and carried.

Dr. Blaine stated that during his term of office as Secretary a great many papers, periodicals and literature of various kinds had accumulated in his office, and moved that he be permitted to turn all such accumulated literature over to the Denver Academy of Medicine.

Seconded and carried.

Dr. Hall moved a vote of thanks be extended to the Antlers Hotel management, to the officers of the Society, and to the President of Colorado College for the

many courtesies extended, and that the Secretary be instructed to convey the thanks of the Society by letter to President Slocum of Colorado College. Seconded and carried.

The President appointed Dr. Neeper a committee of one to escort the newly elected President, Dr. H. G. Wetherill, of Denver, to the chair.

Thereupon Dr. Wetherill made the following remarks:

Members of the Colorado Medical Society:

I want to thank you for this mark of your favor and confidence. I feel that the society has taken a great responsibility in trusting its management to me, and that I also have assumed a great responsibility. Colorado is a large state. As you know, it is over 380 miles from the Kansas to the Utah line, and it is about 280 miles in the other direction. It has an area in square miles greater than the whole of New England and the state of Ohio. We have something more than half a million population. We have a medical body which is universally conceded to be equal in ability, skill and attainments to that of any state in the Union, and it is a great honor to be chosen in the kindly way (I think I may be allowed to say in the unanimous way) in which this election has come—an honor which I appreciate and which I shall always remember with great pleasure and gratification. A number of friends have congratulated me, but I have told them such congratulations were premature, that we should wait till a year from now; and then know whether the individual you have selected as your president is to be congratulated and whether the society is to be congratulated.

Now the officers of our society can no more win victory and success than the general and the lieutenants of an army corps can win success in battle; if we, your officers, do not have the support of those who make up the great medical body of this state we can have no success. Dr. Black, whom you have selected for secretary, will co-operate with me, and so far as we are able, I can promise you that we shall leave no stone unturned to make the coming medical year a successful one. But we rely upon the members of the society from all over the state—from Sterling in the northeast to Durango in the southwest, and from Las Animas in the southeast to Hahn's Peak

and Meeker in the Northwest—to do everything that each individual can do in order to make the next meeting a success. President Finney, Secretary Blaine and Colorado Springs fellows have set a pace which is going to be very difficult to follow.

The members of the profession in Denver in particular are put upon their mettle to keep up the pace which has been set for us, and we must not fall in our effort.

I note with a great deal of pleasure the growth which this society is making. As we have just heard from Dr. Blaine, the secretary, we have now a membership of 556 in the Colorado State Medical Society. This is not quite doubling the membership during the last three years, the period of reconstruction under the American Medical Association plan, but it is almost doubling it, and I think I am right in saying that a large proportion of that accession of growth has come from the state at large rather than from the cities; that the new county organizations and the new members who have been taken into the old county organizations are largely responsible for this growth. Now that being the case, it ought to be a very great pleasure to give these new members from the outlying portions of the state not only recognition, but the right hand of fellowship in the most cordial way, and we ought to urge them to share the responsibilities, and I trust that we may be able to do this. I am sorry to say that there are many of these members whom I have not met, but I am looking forward to the pleasure of meeting them during this year, and inducing them to co-operate actively in the work of the society.

Gentlemen, I have nothing further to say, excepting to beg that you will allow me to repeat that I have the highest appreciation of this honor which you have so kindly tendered me, and so far as it lies in my power to serve you I shall have great pleasure in doing so.

Drs. S. D. Hopkins, J. N. Hall and Melville Black presented to Mrs. Wetherill a bouquet of American Beauty roses.

Dr. Miel moved that three cheers be given for Dr. Finney, the President, Dr. Blaine, the Secretary, and Colorado Springs.

Carried and the cheers given with hearty good will.

Society adjourned sine die.

# The Colorado Medical Journal

AND WESTERN MEDICAL AND SURGICAL GAZETTE

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[NOTE.—As a precautionary measure the Editors of this department will remain *in cog.* All members of the profession are invited to send in items for publication addressed to Editor Department of Medical Wit and Humor, Colorado Medical Journal, 1756 Champa street, Denver.]

## EDITORIAL COMMENT

### HOMŒOPATHY.

At a recent meeting of the Medical Society of the City and County of Denver, the principles and practice of Homœopathy were the chief topics of discussion. Many Homœopathists, who had been invited, were present to defend and expound their cause, and showed by the manifest sincerity of their professions and confessions that Homœopathy was to them something more than a commercial device. That sensible men should give adherence, partial or complete, to the practice of a doctrine which, in the eyes of all but disciples of that doctrine, is baseless, is to many intelligent members of the Regular School of medicine an enigma, suggesting a commercial spirit; but may be explained on general principles in the light of the Junian apothegm, that "when once a man is determined to believe, the very absurdity of his doctrine confirms him in his faith." The charge of insincerity, except in individual cases, needs better support than has been forthcoming. It is certainly, moreover, not even partly sustained by the extensive use of books of the Regular School in the teaching and practice of Homœopathy. That use has been repeatedly and validly justified by the followers of Hahnemann on the ground that the science of the pathogenic principles of drugs, though centenarian in years, is still infantile; and that, while this infancy persists (as persist it will), Homœopathists have a logical and indefeasible right to make free use of principles confessedly less worthy of confidence than that of *similia similibus curantur*. In other words, it is eminently proper (and, it should be added, highly serviceable to mankind) for Homœopathists to abandon in practice

their doctrine until it is better understood and can be wisely applied.

The Hahnemannian dictum would be an all-sufficient guide to correct therapeutic action if two suppositions (soon to be stated) were approximately true. It is not to be inferred from this that Homœopathists actually formulate these suppositions, which, however, are the logical inference to be made from Homœopathic practice. The first supposition is that Nature's corrective means and methods are either always best or never good. The truth is merely that those means and methods are often good and sometimes best. They are certainly very limited in variety and inadequate for the promotion of general longevity in this artificial and variously diseased age. That Nature herself did not deem them even approximately adequate in the days of primeval simplicity is shown, among other things, by the marked superadequacy of the reproductive powers.

The second supposition is that pathogenic symptoms are always (or never?) a part of Nature's remedial designs. In reality, however, some of them are a part, but others merely inevitable consequences, of those designs in operation; others are consequences (accidental or inevitable) of the mere presence of the pathogenic causes which Nature is trying to subdue. Thus, sweating is at one time a part of Nature's designed means of stabilizing the body temperature; but at another time is the result of the utter collapse of the vasomotor system. Again, profuse sweating often attends vomiting and is due to probably undesigned vasomotor relaxation of the skin, accompanying designed vasomotor relaxation along the upper portion of the alimentary tract.

From these considerations it is evident that symptomatic treatment at best is in general a very blind procedure and that the past, present, and future Homœopathic quest for drugs to produce congeries of pathognomonic symptoms is preposterous and can never advance Homœopathy from its infantile stage to that of efficient action.

Homœopathy owes its continued existence and its modicum of popularity to a variety of accidental causes: (1) to its virtually laissez-faire procedure or else the abandonment of its original principles for rational therapy; (2) to the winning personality of its misguided practitioners; (3) to popular credulity; and (4) to the general and the individual ignorance of the Regular School. Of this ignorance, the first species is fast diminishing; but the second, which is additional, though perceptibly declining, must be always and everywhere present in amount sufficient for the living needs of Homœopathy and other vagaries.

A. D.

#### THE RELATION OF THE PRACTITIONER TO INSURANCE EXAMINERS.

At a recent meeting of the Medical Society of the City and County of Denver, in a paper read by Dr. Miel, the question came up as to the attitude our profession should assume towards insurance examiners coming to us, with the consent of our patients, for information regarding points that the patient cannot answer satisfactorily. On its face the answer seems very simple, for the patient, it appears, should have the right to indicate whether or not the results of his examination, etc., by his family physician should be given to the insurance company. When we consider, however, that the insurance company is merely a combination of capitalists who are in business for something besides their patrons' good and their own health, we will soon

come to the conclusion that they should be dealt with in the same manner as we would deal with any other business organization.

There are five factors to be considered in examining the subject: The applicant for insurance, the family physician, the insurer, the examiner, and the proposed beneficiary. Under present conditions, the applicant and his physician are practically at the mercy of the company and its examiner. He knows that behind the request for information lies the threat of rejection, and in the majority of instances finds it wiser to grant the request than to refuse it. His physician is usually forced by his patient's anxiety to give information desired despite his views on the injustice of the demands.

The courts make sacred the confidences of patient to physician, knowing that in many instances the people would be benefited if such were not the case; but feeling that, in the majority of instances, in order to make the relations between physician and patient mutually useful, the commonwealth must make this sacrifice.

If a physician, in his examination, discovers signs that he deems unwise to communicate to his patient, he certainly has no right to give such information to a company. He has no moral right to give a medical examiner information the importance of which a patient did not realize at the time he gave his consent to the communication between examiner and family physician.

The insurance company desires information that the applicant cannot give and stoops to the expedient of gaining knowledge from a source that should always be held inviolate. The examiner is supposed to be a competent judge of the risk, and if not should call in some one who is and pay him for it.

Information given by patient to physician should be held as confidential for

all time and not subject to publicity at a later date upon the request of a medical examiner. If this were understood by both patient and insurance company, we would never be called upon to dance to the company's music.

The applicant is simply investing his money for the interest of his heirs or himself; it is purely a business transaction in which both parties are well protected by statutes. The company is not compelled to pay insurance if full and correct answers have not been given. The beneficiaries can compel the payment of insurance according to contract if conditions demanded by the company have been fulfilled.

The principle at stake is greater than the wellbeing of the insurance company or applicant, and it is for this that I wish to stand—the sacredness of the patient's confidences to his physician upon which our relations are absolutely dependent.

It is not my purpose to advocate our shielding patients by misstatements, nor to justify false statements made by applicant to examiner, but simply to urge dealing with insurance companies as with other organizations.

Being protected by statutes, employing commercial agencies to investigate the character of applicants, examiners, and medical attendants, having the power at all times to reject without giving cause, thereby injuring innocent proposed beneficiaries, they should rest content and not attempt to gain information from a family physician.

As family attendants we should distinctly inform our patient that we will not give information to medical examiners of insurance companies or any one else. We can at no time refuse to give a patient information that he has paid for; if he is unable to translate this to the examiner, or makes false statements, let the company and applicant fight it out.

Undoubtedly at times this will work an injustice upon the patient, but he must be sacrificed to the general good that will accrue if the companies come to understand that they cannot resort to this means of obtaining information.

A. L. TAUSSIG, M. D.

[There is also another factor which should conclusively determine the physician's conduct in the matter. Requests for information made by insurance examiners to the practitioner are always accompanied with the statement that such "information will be held *strictly confidential*." If, however, the applicant for insurance is rejected on account of such information, *the promised confidential nature of the communication is never preserved*. Let such rejected applicant, at a subsequent date, apply to any other insurance company for a policy, and it will at once become evident that all insurance companies have been informed of the previous rejection and the cause for the same. This practice by insurance companies of exchanging with each other such "confidential information" is sufficient to at once and forever utterly damn the compliance of the family physician in supplying them with it.—EDITOR.]

#### PERNICIOUS TEACHING BY THE CLERGY.

The Rev. John H. Houghton, of St. Mark's Episcopal Church, Denver, he of the recently proposed Christian-Science-Clairvoyant-Magnetic-Faith-Cure Clinic in connection with his church, has broken loose again. This time it was in an address to the nurses of Oakes Home of this city, in which he is reported by the daily press to have said: "I am heartily in favor of the nurses. They do even more good than the physicians. But one thing in that connection which has always aroused me, is the fact that ministers are not allowed in the sick room by the physicians. A minister can do a sick

person more good than all the pills and medicines any physician ever poured down one's neck, and *I want all you nurses to remember this and get us in to see the sick every time we come here.*" (The italics are ours.)

Using the foregoing as a text, it is well to introduce the sermon by saying that what follows applies only to pastors of the churches in the large cities, and not to those of the smaller towns and country. The latter, at any rate the vast majority of them, generally believe the dogmas of their own particular sect, whatever it may be, and teach what they believe. This is one of the reasons why they remain the pastors of obscure congregations.

The influx of people to the large cities in recent years tends to make them have the preponderance of population and influence. Many of the stronger men of all denominations have awakened to the fact that the church no longer reaches the masses of the urban population, and has lost much of its influence for good which it formerly possessed, and should to-day exercise. They have not awakened, however, to the fact that the fault lies with the clergy themselves.

The most important subject for them to teach is integrity of character, and integrity of character is too often lacking in them for them to successfully induct it into others.

Integrity is just as essential in the nurse as in the physician. It is also as essential in the clergy as in either nurse or physician. It is difficult to say which is the more dangerous with this element of character lacking.

It should be generally recognized that integrity presupposes two essential factors, courage and honesty. That the former is too often lacking in the city clergy is a matter of easy demonstration. Simply as a matter of illustration (for the same will hold good of the other sects), let us take the denomination known as

the Methodist Episcopal Church. What proportion of their pastors of large and influential congregations dares to attempt to enforce the provisions of the discipline of that denomination concerning theatre-going, card-playing, and dancing, notwithstanding the fact that at their last General Conference a movement to change these provisions was decisively voted down? So far as the city churches are concerned those provisions hold about the same position which the laws against gambling, midnight and Sunday closing of saloons, and prostitution hold in the city of Denver. They are laws which are not enforced.

As has already been said, honesty is an essential factor of integrity. Professional honesty is simply a matter of common honesty applied to the exigencies of a certain profession. Professional integrity, and therefore professional honesty, is as essential to the character of the nurse as it is to that of the physician or clergyman. If it is not inculcated in the training school, the nurse will not receive it. And yet we have here a clergyman teaching absolute and downright professional dishonesty! With his views as to the relative value of the clergyman and the physician, or the relative potency of pills on the one hand, and prayer on the other, we have no quarrel here. We do, however, have a right to protest against his inculcating false ideas as to the duties of the nurse—her first duty is strict obedience to the directions of the physicians—and undermining her conceptions of common honesty.

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#### PRAYER vs. PILLS.

The new editor of *Colorado Medicine*, Dr. J. M. Blaine, has adjusted his editorial harness and gotten down to business without any unnecessary delay, as the following will show:

"Recently there was added to the Oakes



Sanatorium of Denver a home for nurses. Judging from the description as given by *The Denver Evening Post*, the home is elegant in all its appointments and admirably adapted to the purpose for which it is intended.

"The Rev. John H. Houghton in his dedicatory address gave vent to the following: "I am heartily in favor of nurses; they do even more good than the physician. But one thing in that connection which has always aroused me is the fact that ministers are not allowed in the sick room by the physicians. A minister can do a sick person more good than all the pills and medicines any physician ever poured down one's neck, and I want all you nurses to remember this and get us in to see the sick every time we come here."

"At first sight one might jump at the conclusion that the Rev. John was merely wanting to dole out spiritual consolation and see that the patient was properly ticketed for his final journey, but on second reading we note that he puts up his prayers against the physician's "pills and medicines" and claims a less mortality for his plan of treatment.

"In future when our medical friends who have patients in this institution report rapid progress we will suspect that they are getting assistance from the benedictions of the rector of St. Mark's.

"To treat the subject more seriously, however, one might be inclined to call this instruction to the nurses a huge joke, were it not for the fact that only a few months ago this same gentleman attempted to start a prayer clinic right under the sacred dome of St. Mark's. His excuse was that many of his flock were seeking relief from Christian Science and in order to keep them kneeling at their own shrine he proposed a plan at once unique and grand, a plan that would have out-Mary'd-Mary had it not been sidetracked by the Bishop.

"He proposed that every patient should be treated by some one who had demonstrated great skill in relieving special cases, so that each patient would have the services of a specialist skilled in some variety of unseen and mysterious healing.

"If all ministers were built along these lines it would be little wonder if physicians should bar the door against their admission. There is in many cases a turning-point where a word or even a look will cause the patient to lose heart and relax his hold on the struggle for life, and the entrance of the minister or the sympathetic friend is often suggestive of dissolution.

"In all cases the competent physician who enjoys the confidence of the family and patient is the proper one to say when to admit the minister or the undertaker."

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#### THE NEW SECRETARY OF THE COLORADO STATE MEDICAL ASSOCIATION.

Dr. Melville Black, who, as a "dark horse," was elected secretary of the Colorado State Medical Association at its last meeting in Colorado Springs, was born in Washington, Iowa, forty years ago. He graduated in medicine at Bellevue Hospital Medical College in 1887. During the following two years his time was occupied in general hospital work and private and public courses of instruction in diseases of the eye, ear, nose and throat. In 1889 he received the appointment as junior interne to the Manhattan Eye and Ear Hospital, and finished as house surgeon in 1891. He then came to Denver and was soon appointed to the chair of eye, ear, nose and throat in the Medical Department of the University of Colorado, which he held until 1896, when he gave it up to accept the chair of Ophthalmology in the Gross Medical School of Denver. Since the union of the Gross Medical School and the Medical Depart-

ment of the Denver University he has occupied the chair of Ophthalmology in the Denver and Gross Medical School.

Dr. Black is at present on the staffs of St. Anthony's Hospital, the Denver Maternity and Woman's Hospital, and the National Jewish Hospital for Consumptives.

He was married on April 2, 1896, to Miss Eleanor Cole, of Brooklyn, N. Y., and resides at 669 Emerson St., Denver.

Dr. Black has also been one of the most

valued contributors to THE COLORADO MEDICAL JOURNAL since its foundation, and for the past six years has been editor of the Department of Ophthalmology. His contributions to medical literature in his specialty have been numerous and of value both to specialists and the general practitioner. His editorial work in connection with THE JOURNAL has been especially intended for the practitioner, whom he seems to have an unusual faculty of impressing.

The committee in charge of the International Medical Congress, which will be held in Lisbon from April 19 to 26, 1906, has written asking for the contribution of papers on the following medico-legal subjects, and saying that as yet no titles of communications touching on any of these subjects have been received from this country:

The signs of virginity and of defloration in medico-legal relations.

Hand-marks and finger-prints; their medico-legal importance.

The medico-legal importance of the carunculae myrtiformes.

The mechanism of death by hanging.

The value of bacteriologic examination of vulvo-vaginal discharges in the determination of venereal contagion.

The signs of death by drowning.

Ecchymoses in legal medicine.

Spontaneous and criminal abortions from a medico-legal point of view.

Medico-legal investigation of blood-stains.

The relations between the seat of cerebral contusions and the point of application of the agent which produced them.

Epilepsy in legal medicine.

The induction of abortion; when is it permissible?

The value of legal medicine in the study of criminal law.

The best legislation for the protection of the "medical secret" (the obligation imposed upon physicians to treat as inviolable all information concerning patients obtained while in the discharge of their professional duties).

The effects of the civil and penal law towards the new-born living infant.

Distinction between the natural openings in the hymen and tears of this membrane.

Criminal vulvar copulation.

Organization of medico-legal services.

If any of the readers of this communication intend to take part in the discussions of this section of the congress, or to prepare papers for it on any of the subjects mentioned, or on any other subject in medicine or surgery, he should inform the Secretary of the American Committee.

RAMON GUITERAS,

Secretary American National Committee.

75 West 55th St., New York.

Kind Words from "The Critique," the Denver Organ of Homeopathy.

THE COLORADO MEDICAL JOURNAL now reaches us promptly on time and appears to have taken on a new lease of life, inasmuch as a large number of the most prominent physicians of the city and state have associated themselves with the journal, and it gives ample evidence of rejuvenation by the character and quantity of contents. The publication in question is divided into twenty-eight departments, each department having at least one editor, some two, to which is added from one to three consulting editors. With this large staff, and a publishing house as owners, THE JOURNAL should prosper and be of great benefit to the school of practice which it represents. "The Critique" wishes it much deserved success.

Dr. Ernest W. Emery has purchased a handsome residence on Race street, between Colfax and Sixteenth avenues, Denver, which he will occupy as a home. The price paid was \$7,500.

# PROGRESS OF MEDICAL SCIENCE

## DEPARTMENT OF CLIMATOLOGY:

F. G. BYLES, M. D.,  
*Editor.*

S. E. SOLLY, M. D.,  
*Consulting Editor.*

### COLORADO CLIMATE FOR TUBERCULOSIS.

We frequently see the statement in current medical literature that tubercular people do just as well at their homes in the Eastern and Middle States as in Colorado or other portions of the elevated Rocky Mountain region, especially if they can be treated in some sanatorium. This idea naturally follows the opposite extreme, so prevalent a few years ago throughout the East, that all tuberculous patients would be benefited by Colorado climate. The truth in regard to the beneficial effects of our climate lies between these two extremes. The climatic conditions of Eastern Colorado are certainly such as to benefit a large class of tuberculous invalids. Many of these people are improved by removal to Colorado, but not all; some are made worse; and the same conditions that will bring health to one class of sufferers will be harmful to the other.

In all cases, we must not only consider the stage of advancement and character of the disease from which the patient is suffering, in estimating his chances for improvement, but we must take into account the age, character, and type of the patient himself. If he is of a nervous type and unable to sleep well, or is extremely anxious about his condition and apt to worry over separation from home and friends, he will probably not improve as rapidly as desired. His financial condition must also be taken into account in deciding upon removal to Colorado for the benefit of his health. If he has plenty of home comforts and abundance of good

food and proper hygienic surroundings at home, and not enough money to live here and enjoy to the fullest extent the outdoor life and the quantity and quality of food so necessary to improvement in all cases of tuberculosis, together with the necessary hygienic surroundings, his removal to Colorado will be of doubtful propriety and will not be attended with the desired improvement in health.

It is certainly distressing to meet so many poor people, who have sacrificed everything of their own, and often have drawn heavily on their friends to raise enough money to come to Colorado, only to hasten their end by living in dirty and poorly ventilated rooms, on a starvation diet, badly prepared food of inferior quality, together with the constant worry and depression caused by a scarcity of funds and a knowledge of the sacrifices being made for them by their friends at home.

Another thing should be understood by the patient, and that is the length of time required to bring about this desired restoration to health. Many patients appear to think that a few weeks', or, at most, a few months', residence here is all that is needed to effect a permanent cure. They stay a short time, and are disappointed with the result, and go back home and add their testimony to that of others similarly situated, as well as that of patients who, from the character or advanced stage of their disease, could not reasonably expect any benefit, to the effect that there is no good in Colorado climate for tuberculous people. All of these mistakes

tend to mislead the public, and, to a certain extent, the profession as to the therapeutic value of this climate in cases of tuberculosis. The tubercular patient coming here for his health should fully understand that a few weeks' residence in Colorado will not bring about a cure. He should be made to realize, if such a thing is possible, that he is engaged in a life-and-death struggle with the greatest enemy to human life, and that if he expects to win out, it will be necessary for him to spend months, and probably the remaining years of his life, in the open air and bright sunshine of Colorado.

Four things should be, then, fully understood by the profession and the public in order that the patients who resort to our climate may receive the greatest possible benefit, and that the climate may be given due credit for its curative powers.

1. The character and stage of the disease (of which we may have something more to say at a future time).
2. The individual make-up of the patient.
3. His financial ability to take advantage of the climatic influences.
4. The length of time necessary to effect a cure.

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#### SELECTION OF CLIMATE.

In a comprehensive article on Medical Climatology by the editor of *American Medicine* (Oct. 28, 1905), the writer suggests that the beneficial effect of a change of climate in case of health or disease is due to the fact that the individual is getting away from a climate to which he is by nature unsuited and getting into one which is more adapted to his physical needs; that each climate is suited to those adapted to it, but harmful or fatal to all others. The Eskimos die of pneumonia in the temperate zones, and the negroes

soon perish if they go too far north. The present problem in climatology is to find out what the fatal factors really are. We in America, when ill change from one place to another in the hope of avoiding the conditions that have harmed us, and this is possibly the benefit.

The author suggests that many of our ills may be due to the fact that we live out of the climate to which we are by nature best adapted. The blondes of Northern Europe, unaccustomed to a great amount of sunshine, may be benefited for a time by residing in a more southern and sunny climate, but a permanent change to a southern climate is not conducive to longevity and health, nor is the sunburnt southerner adapted to a life in the north.

Following up this idea the author emphasizes the fact that in prescribing a suitable climate for our patients some knowledge of anthropology is necessary. Not all patients can be bunched as men simply; they must be sorted out. There are as many kinds of men as there are kinds of climates, and we find all types in America. It should be a rule in tuberculosis, as well as in every other disease, in which a certain set of meteorologic conditions is necessary for a long treatment, that a climate should be selected which will be, at least, not markedly different from the patient's ancestral one.

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In his excellent article on tuberculosis, in the September, 1905, issue of *Progressive Medicine*, William Ewart, M. D., F. R. C. P., quoting Dr. J. Edward Stebbert, says that to prescribe climate alone for tuberculosis is as equally culpable as to ignore climate, diet and hygiene in favor of medicinal or other treatment; that the physician's duty lies in a judicious, scientific comprehension of these two basic lines of treatment.

## DEPARTMENT OF DIGESTIVE DISEASES:

A. E. ENGZELIUS, M. D.,  
*Editor.*THE MODE OF INFECTION IN UNCIN-  
ARIASIS.

Claude A. Smith relates in detail another experiment (*Jour. A. M. A.*, Oct. 14, 1905) whereby he has definitely determined that the larvæ of the uncinaria penetrate the skin and thus gain access to the alimentary canal. Some soil containing an abundance of the eggs of the uncinaria was placed on the wrist of an individual who had shortly before been discharged from the hospital after an operation for hernia. Within five minutes the man complained of a sharp stinging sensation in the area covered by the soil, which increased and persisted during the time of one hour the soil was allowed to remain on the wrist. The area covered by the soil was found to be decidedly reddened. Later an intense itching set in, the redness increased and the wrist became swollen. These local symptoms increased rapidly in severity, and on the third day the entire area was covered by vesicles. The symptoms now gradually

subsided, and on the sixth day there remained only a trace of swelling and a few vesicles. Almost the entire area was now covered by the crust which had formed. Examination of the feces, carefully and regularly conducted from the beginning of the experiment, were negative in results until the middle of the sixth week, when a few eggs were found. After this they steadily increased in number. Eight weeks after the appearance of the eggs, he was given two doses of thymol, each 30 grains, preceded and followed by a large dose of salts. An examination of all his evacuations for twenty-four hours revealed the presence of 596 adult male uncinaria and 752 female uncinaria—a total of 1,348. While he can not say that the passage of the parasites through the skin is the only way by which it gains access to the human body, Dr. Smith concludes, from the experiments and from the clinical history of the cases, that this mode of access is the rule and the ingestion through the alimentary canal the exception.

## DEPARTMENT OF ALIENISM AND NEUROLOGY:

B. OETTINGER, M. D.,  
G. A. MOLEEN, M. D.,  
*Editors.*H. T. PERSHING, M. D.,  
J. E. COURTNEY, M. D.,  
HUBERT WORK, M. D.,  
*Consulting Editors.*

## BRAIN INJURIES.

Peyton (*Jour. A. M. A.*, Oct. 14, 1905) records that there may be extradural or intradural hemorrhage with or without fracture, fissured or depressed, and quotes Phelps as holding that in 50 to 60 per cent. of cases this factor influences the final result. Operative interference is indicated where there are symptoms of compression, whether from hemorrhage, depressed bone, or the presence of a foreign body.

The greatest mortality is in injuries caused by falls from a height, the person striking on the head. Gunshot wounds are almost equally fatal.

In determining the question as to whether or not operative interference is indicated, it is necessary that the manner of receipt of the injury, the character of symptoms following the same, and the rapidity with which certain symptoms develop following the accident be taken into consideration. If called on to assume the

responsibility of an operation in a patient presenting such evidences of serious brain lesion as paralysis in some form, clonic convulsions of one side, inequality of the pupils, with possibly unconsciousness or profound coma, Cheyne-Stokes or stertorous respiration, there is little doubt that the surgical interference is imperatively demanded. Conservatism should not be sacrificed, but its usefulness increased by adding to it a conservative boldness born of a knowledge of imperative duty and of brain anatomy.

B. O.

#### OTIC EPILEPSY.

B. Alex. Randall (*Amer. Journ. Med. Sci.*, Vol. CXXX, No. 2) thinks that many epileptiform seizures ascribed to ear disease are hysterical rather than epileptic in character, while, on the other hand, ear disease in the epileptic, as several cases of the author show, has no necessary relation of cause or effect.

In spite of the frequent functional nature of such seizures, some cases are relieved solely by ear treatment. A case is reported in which a boy 8 years of age, who was drenched by a hose, some water penetrating the left ear, developed inflammation of the middle ear and a ruptured drum. Epileptiform attacks, as often as three or four a day, ensued. These consisted of winking, twitching of the limbs, rigidity of the back and limbs, and apparent unconsciousness for a few seconds, after which the child would continue to play. Examinations showed a polypus of the left auditory canal, caries of the ossicles, and later some mastoid involvement. The ossicles were removed and the mastoid drained. The attacks decreased much in frequency and severity, and according to latest report the boy was entirely cured.

[In connection with epileptiform seizures wherein adults without previous

epileptic history fall unconscious, the clinician should call to mind the series of Meniere disease symptoms which at times present with exudate of serum or pus in the middle ear.—EDITOR.]

B. O.

#### PARÆSTHETIC NEURALGIA.

C. P. Cumston (*N. Y. Med. Jour.*, Vol. LXXXI, No. 13) discusses editorially paræsthetic neuralgia, the affection first brought to light by almost simultaneous writings of Roth and Bernhardt. When paræsthetic neuralgia occurs in its typical form, the patient is aware of an abnormal sensation at the antero-external aspect of the thigh, and this is present at all times. The sensation may be transformed into pain occurring in paroxysms. The character of the paræsthesias vary. In some there is a malaise which it is difficult to describe, while others feel deep twitchings, a sensation of dead skin, as if a piece of wood were laid in the integuments of the thigh; a constant numbness, prickling or stinging sensations, etc. Paroxysms may consist of mere exaggeration of the paræsthesia, but more frequently pain appears which is compared to a sensation of burning, the intensity of which may be so great as to cause the patient to cry out and limp. The attack may sometimes be stopped by lying down; again, it may persist during repose. Exceptionally the paroxysms are wanting, and in these cases a more or less acute paræsthesia alone may exist or be accompanied by objective disturbances of sensibility.

Very rare are those instances in which paræsthesia is absent with only objective disturbances. In examining to ascertain the latter, it is noted that they occupy exactly the same area as the paræsthesia, although in one case points of analgesia were found irregularly distributed beyond

the typical zone. Hypæsthesia, hypalgesia, and tardy perception of contact or pricking were conditions observed. Friction of the skin, or picking it up, often caused intense burning. There may also be changes in thermic sensation.

In a case reported by Sabrazes and Cabannes, injection of pilocarpine into the diseased area and into the other side showed the presence of trophic and vasomotor disturbances in the paræsthetic area. In one case the skin of the same region was dark red, hot, and wrinkled. The muscles underlying the affected region are usually normal, but in Jonchery's case their electric excitability was diminished but did not present the reaction

of degeneration. Ordinarily a local disease, neuralgia has been found to co-exist with locomotor ataxia, diabetes, gout, obesity, varicose veins, and hemorrhoids. Bresard insists on surgical treatment by resection of the affected nerve, medical treatment being of little avail. If pain is severe, resection should be resorted to, as has been done also by Chipault and Maudaire in three cases. The results in these were favorable. In slight cases the patient can endure his infirmity. So far the etiology of this affection, so singular in its localization, has not been demonstrated, although colds, intoxications, etc., have been held responsible.

B. O.

#### DEPARTMENT OF LIFE INSURANCE: ;

S. T. McDERMITH, M. D.,  
*Editor.*

JOHN ELSNER, M. D.,  
P. J. McHUGH, M. D.,  
*Consulting Editors.*

#### PERSONAL HISTORY.

Many factors exert an influence in rating applicants for life insurance that the young examiner who has not had special training in the work has never dreamed of. Even the experienced practitioner who rates himself as pretty clever often-times falls into serious error in his estimate of the value of a life risk.

The physician with no special training in medico-insurance, and with but little experience, generally recognizes but one factor which he deems essential—that of present physical integrity of the applicant. In this respect such examiner approaches closely the standpoint of the layman. The latter is nearly always indignant when a well applicant—himself or a friend—is rejected or is accorded a low rating. The medical examiner-in-chief not infrequently hears echoes of rebuke from a local examiner on account of his adverse rating of a "healthy," "first-class" applicant—so pronounced by the local examiner.

There are three principal divisions of an examination record:

1. The personal history.
2. The family history.
3. The physical examination.

The latter is exceedingly important, but those who attach the sole importance to this might well ask themselves the question, Why do the first and second divisions appear on the blank? As a matter of fact, in each of these three main divisions any one or more of many factors may enter that has a vital bearing and that may determine the risk an unsafe one.

We have decided to take up these main divisions in their natural order and, in succeeding monthly issues of the JOURNAL, to treat briefly some of the subdivisions or factors that may exert more or less influence in determining the value of a life risk. This means starting in with the *Personal History*.

This implies more or less exposure during all the past life of the applicant to the

whole category of diseases, and to injuries of every name and nature. When an applicant has been the subject of one or many of such, the question is not only has it left sequelæ that promise to abbreviate his longevity (determinable chiefly in division 3), but is he, or is he apt to be, subject to recurrent attacks of the same affection. A good example of the latter is the history of unoperated appendicitis. Others are a history of former epilepsy, or of a mild apoplexy, or of gallbladder, kidney, or vesical calculi, or of suppurative otitis media with possible mastoid involvement, or of multiple attacks of pneumonia. Good examples of the former are the history of one or more attacks of acute articular rheumatism, or of a long, severe attack of typhoid fever, or of pleurisy with effusion, or of one or repeated attacks of gonorrhea, or of intense septicemia regardless of any special type of accompanying disease. A history of syphilis may well excite concern touching both classes.

The foregoing lists show only the more prominent examples. A history of other diseases may exert more or less adverse influence on a risk. Also a history of traumatism from injury or surgical operation may act as a determining factor.

When a personal history of disease or injury other than trivial exists, it is the duty of the examiner to have it show in the examination record, and his opinion (in footnote) of its significance or possible bearing on the risk is due the examiner-in-chief. The latter always welcomes such opinion, though he is not necessarily bound by it. In according an adverse rating it is the exception (and not the rule) to base it on any *one* adverse feature, as may appear, for instance, in the personal history. As appearing in the latter it may be only a contributing factor, which, if standing alone, would not war-

rant a disapproving judgment; but if associated with certain hereditary taint in the family history, or with certain deviations from the standard physique as revealed in the physical examination, the factors thus combined may be such as to well warrant disapproval of the risk. Intelligent judgment of the value of a risk is possible only by critical inspection, first, of all its parts, and, second, of the picture as a whole.

*Appendicitis.* When not operated the applicant is generally postponed for four or five years from date of attack. When operated in the catarrhal or non-suppurative stage, such history is no bar to acceptance after reasonable time has elapsed so that a radical cure without sequelæ can be safely assumed. Suppurative cases are viewed with more or less disfavor, though, following operation and restoration, such cases are deemed insurable if the examiner can satisfy the home office that damaging sequelæ, such as extensive adhesions, ventral hernia, chronic cecal distension, etc., are not present. These different classes and conditions suggest the necessity of intelligent discrimination and full notation on the part of the examiner.

A large percentage of applications showing a history of appendicitis have to be returned or placed in suspense with a call for additional information, so as to enable the medical director to intelligently pass on the application. The expense and delay thus incurred results from lack of appreciation, on the part of the examiner, of the vital or necessary information touching such cases. This lack of appreciation in turn results from lack of training in medico-insurance that should be supplied by the schools.

Other sub-topics of personal history will receive treatment in subsequent issues of THE JOURNAL.



## DEPARTMENT OF GENERAL SURGERY:

F. GREGORY CONNELL, M. D.,

O. M. SHERE, M. D.,  
*Editors.*

LEONARD FREEMAN, M. D.,

E. J. A. ROGERS, M. D.,  
R. W. CORWIN, M. D.,  
*Consulting Editors.*

## THE SURGICAL TREATMENT OF TUBERCULAR CERVICAL LYMPH-NODES.

Chas. N. Dowd, M. D., in the *Annals of Surgery*, July, 1905, in an article on the above subject, which is a study of 100 cases submitted to operation, states that there is a wide-spread feeling of uncertainty about the late results of operation, and there are many differences of opinion as to just what patients should be operated upon and just what kinds of operations should be done.

After a study of published statistics concerning the course of the disease and the result of treatment, he has been impressed by three deductions, namely:

1. The disease is a serious one, and often leads to tuberculosis of the lungs or other parts of the body.

2. The records after thorough removal of the nodes are better than those from their partial removal, or from palliative measures.

3. The prognosis is better in children than in adults.

As an etiological factor, heredity seemed less important than environment.

In 86 per cent. of the cases the infection atrium was in the throat or the naso-pharynx.

The bacilli may pass through the mucous membrane and infect the lymphatics without leaving visible evidence of their transit.

In cases of difficult diagnosis, Dowd recommends a removal of one of the glands for microscopic examination, saying the scar need hardly be seen, and the method is surely more satisfactory than is the injection of tuberculin.

The upper nodes of the deep cervical chain of lymphatics are usually the first to be affected, and from here the infection

continues downward along the internal jugular vein, also downward and backward toward the trapezius. The submaxillary and the submental groups may become involved later.

The existence of a single enlarged gland in this central chain is evidence that others exist, and whenever one is removed, the region under the sterno-cleido-mastoid muscle should be explored as a routine procedure.

Dowd places great importance on the cosmetic result, and aptly says that the fear of unsightly scars may lead many to postpone the operation until the most favorable time has passed. For the reason that longitudinal scars stretch and thicken, and that transverse scars that follow the neck creases do not, and soon become practically unnoticeable, he advocates one or more transverse incisions, supplemented, when necessary, by a longitudinal incision posteriorly at, or near, the hair line. The only objection presented against the usual anterior, longitudinal incision, is that the cosmetic result is not good.

The author does not approve of the removal of the nodes en masse together with the surrounding tissue, as though they were cancerous. Important structures are injured in this manner. Only so much of the adjacent tissue as has been infiltrated with tubercular inflammation should be removed.

There are three structures which are liable to be damaged in the operation which must be studiously avoided, the internal jugular vein, the spinal accessory nerve, and the lower fibres of the facial nerve. Other structures will rarely be injured if the dissection is kept close to the capsules of the nodes.

The first can be prevented by free in-

cision and isolation of the vessel early in the operation.

The spinal accessory nerve may be mistaken for gland capsule or a branch of the cervical plexus. The nerve should always be saved. (When assisting the late Christian Fenger in these operations, the editor learned to identify this nerve by pinching the suspected tissue with a pair of forceps; if it was the nerve there would be a twitching of the trapezius.) An unsightly paralysis of the lower lip sometimes follows incision in the neck below the border of the jaw, due to a division of the lower fibres of the facial nerve.

The sterno-cleido-mastoid muscle need not often be divided. In this series of cases it was divided sixteen times, much less frequently in the later than in the earlier cases. Dowd has never seen disability or torticollis follow its division.

Drainage as a routine measure will be advisable, small; a few strands of silk-worm gut makes a good drain. Subcuticular catgut stitch is recommended.

The records of operations justify the following assurances:

*In favorable cases*—Safety of the operation, many operators report more than 100 cases without mortality; a scar that is hardly to be seen; probable confinement to bed of two or three days; the wearing of a bandage or dressing from 1½ to 3 weeks; freedom from recurrence in about 75 per cent.; and ultimate recovery in about 90 per cent. of the cases.

*In less favorable cases*—Less disfigurement from scars than a discharging sinus will cause; freedom from recurrence in 50 to 55 per cent.; and ultimate cure in 70 to 75 per cent. of the cases.

It is not feasible to divide the cases into groups, some suitable, others unsuitable, for operation. Every case with tubercular cervical nodes should be operated upon unless there is a particular reason to

believe that the operation would not be endured.

The article is splendidly illustrated.

F. G. C.

#### THE CHRONIC COMPLICATIONS OF CHOLECYSTITIS.

In the *Medical Review of Reviews* for July, Robert T. Morris contributes some concise comments upon this subject. He says that so many have webs of adhesion in the bile tract region, that post-mortem examiners get to consider the condition as almost normal. He likens these adhesions to those of the pelvis in the female, and to those occurring in the region of the cecum.

The presence of these "cobwebs in the attic of the abdomen" is explained as follows: In a case of so-called acute indigestion, the rapidly increasing bacteria of the bowel are carried to the liver by the portal vein, and there cause an attack of acute cholecystitis. This infective invasion of the mucosa, of the subperitoneal structures of the biliary passages results in a desquamation of the endothelial cells of the peritoneal surface, and is replaced by connective tissue adhesions. These adhesions spread in all directions and are responsible for a multitude of symptoms. In other cases, however, they present no symptoms.

Morris dwells upon the importance of tenderness, over the lumbar ganglia, about an inch on each side of the navel near the spinal column. In eye strain cases neither one of the lumbar ganglia is hypersensitive on pressure. In loose kidney and involution of the appendix, the right lumbar ganglion is very tender on pressure. In pelvic irritation both lumbar ganglia are tender on pressure. In gall bladder cases neither one of the lumbar ganglia is tender on pressure.

Spasm of the muscles of the abdominal wall may also aid in the diagnosis.

Persistent discomfort at the "pit of the stomach" is characteristic of these cases. It may disappear for a day or two occasionally, but usually these patients say that they are aware of this discomfort day after day for months and years.

Tenderness over the region of the gall bladder is usually present.

The treatment consists of the separation of the adhesions and the removal of the gall bladder.

In concluding he says: "In infection of the appendix, surgeons used to wait for abscess before operating. In infection of the gall bladder, they often wait until they are sure of the presence of gallstones before operating."

F. G. C.

#### SURGICAL TUBERCULOSIS.

Mayo (*Journal A. M. A.*, April 15, 1905) calls attention to the comparative frequency with which tuberculosis occurs in the abdominal cavity. In 1,888 operations for appendicitis, the Mayos have found localized tuberculous disease of that organ twenty-nine times. Kelynack, in 121 cases of cirrhosis of the liver, found that 10 per cent. had tuberculous peritonitis. That infected particles are carried to the liver for destruction is further shown by the embolic pneumonia which often follows gastric operations, on account of the communication through venous anastomosis about the cardiac orifice of the stomach, although its main channel of venous return is through the portal system. The liver and intestines under equal conditions are not subject to this disaster on account of their limitation to a portal circulation.

Woodhead, in 127 autopsies in children dead of pulmonary tuberculosis, found 100 with tuberculous mesenteric glands. In very many cases of tuberculous peritonitis in women the author has been able to prove the presence of tuberculosis of the Fallopian tubes. In general, it may

be said that this article tends to show that tuberculosis may not improbably originate, in many cases, in infection acquired through the intestinal tract, and that the bacilli either produce primary foci of disease within the abdomen or are carried by means of the lymphatics to more distant parts of the body. The practical lessons with regard to tuberculous peritonitis are thus stated by the author: "From the narrative of facts and observations so briefly set forth, I think we are justified in the belief that the failure of simple laparotomy and evacuation of fluid exudate in tuberculous peritonitis to maintain a high place in surgery is due to reinfection from lesions in the mucous membrane of the Fallopian tubes, appendix or some part of the intestinal tract. We have been treating a symptomatic peritonitis instead of removing the source of disease. That many times the infecting lesion can not be discovered is true, and it is equally true that not all cases can be explained in this way. Experience teaches that, under expectant treatment, many of the primary lesions are cured by natural processes. Simple laparotomy and drainage aids recovery in a remarkable manner. Radical operation on the primary lesions in tuberculous peritonitis will greatly increase the percentages of cures and prevent reinfection of the peritoneum.

"In conclusion, it seems reasonable to suppose that tuberculous peritonitis has its origin in a local focus in practically every case, as is the fact in septic peritonitis. Peritoneal reinfection may be prevented if the local focus can be removed. Whether the patient will regain and maintain general well being must depend to a large extent on whether the local focus thus removed is primary or secondary and, if secondary, as to the possibilities of a cure of the chief seat of disease."

O. M. S.

# THE BLOOD COUNT IN SURGICAL AFFECTIONS.

Souden (*Medical Record*, March, 1905), from a study of 1,400 blood counts in surgical diseases, reaches the following conclusions:

1. A relative percentage of polynuclear cells below 70 with an inflammatory leucocytosis of any degree excludes the presence of gangrene or pus at the same time the blood examination is made, and usually indicates good body resistance toward infection.

2. An increased relative percentage of polynuclear cells with little or no inflammatory leucocytosis is still an absolute indication of the inflammatory process, and the percentage is a direct guide to the severity of the infection. In children, where the polynuclear percentage is normally lower than in adults, there may be pus or gangrene with the percentage as low as 73. In adults a purulent exudate or a gangrenous process is decidedly uncommon with less than 80 per cent. of polynuclear cells and the probability of their presence increases with the percentage.

3. An increased relative percentage of polynuclear cells with a decided inflammatory leucocytosis is the typical picture in most cases of inflammatory lesions. In general, therefore, it may be said that a marked leucocytosis indicates a good body resistance in cases in which the polynuclear count is relatively high. That is, the percentage of polynuclear cells is an index of the degree of the inflammatory lesion and the total leucocytosis should always be studied with it in mind.

O. M. S.

## ETIOLOGY OF FISSURE IN ANO.

Pennington (*Medical Record*, June 10, 1905) discusses the various theories of the causation of this disease that have been universally taught and accepted and

claims that they are at least in many cases erroneous. The author presents a more comprehensive etiology, one furnishing better reasons why the little ulcer occurs with such frequency and regularity upon the dorsal surface of the anal canal.

He believes that the chief predisposing factor in the etiology of this disease is anatomic, and that the sequential location of the fissure is due to the support given to the anal canal by the sphincters and levatores ani muscles.

After carefully considering the embryology and anatomy of the anal region, his conclusions are:

1. The dorsal surface is the most frequent location of fissure in ano, the anterior the next, the sides the least.

2. The dorsal surface receives the least support from the muscular cylinder that surrounds the anal canal, the anterior the next, while the sides receive the greatest.

3. Experimentally, with and without anaesthesia, a conical anal dilator, when forced into the anal canal, tears the dorsal surface first and almost universally, the anterior occasionally, and the sides rarely.

4. From the foregoing it will be seen that the sequential points of muscular weakness, experimental tears, and location of fissure in ano correspond. O. M. S.

## SCOPOLAMINE AS A GENERAL ANAESTHETIC.

E. Rochard (*Bull. Gen. de Therap.*, March 8, 1905) gives a brief review of the various reports on scopolamine as a general anaesthetic. As a rule, two injections each containing 0.012 gm. ( $1/5$  gr.) of bromhydrate of scopolamine and 0.12 gm. (2 gr.) of bromhydrate of morphine are employed within a quarter of an hour. The patient will soon fall into a natural sleep and after the second injection the reflexes will be diminished and

general vaso-dilation will set in. For longer operations, scopolamine will often not suffice and it may be necessary to give the patient a few whiffs of chloroform. The anaesthesia often persists so long that the patients will not need an injection of morphine the following night to bring on

sleep. It is difficult to say if the accidents which are reported from time to time are due to the scopolamine, to the operation itself, or the chloroform which had been used. The general congestion which is often seen demands care in stopping hemorrhage.  
O. M. S.

#### DEPARTMENT OF OPHTHALMOLOGY:

MELVILLE BLACK, M. D.,  
Editor.

##### THE IMPORTANCE OF THE CORNEAL TEMPERATURE AND NICTITATION IN CORNEAL THERAPEUTICS.

Angus McGillivray, C. M., M. D., F. R. S. E., Dundee (*The Ophthalmoscope*, July, 1905), refers to the work of Michel and Silex in the determination of ocular temperatures. "Silex summarizes as follows: 'Taking all circumstances into consideration, we are justified in saying that the conjunctival sac has a temperature of 2°C., corneal lamellæ 10°C., anterior chamber 6°C., lens 3°C., iris substance 0.36°C., and center of the vitreous 4°C. less than the rectal or body temperature.' These figures agree approximately with those given by Michel. In all inflammatory affections, Silex found that the temperature was elevated as compared with the healthy eye: in hypopyon keratitis as high as 1.45°C., and in acute iritis 1.56°C."

The author takes the position that since pyogenic micro-organisms grow best at about the normal body temperature, their growth is inhibited in the anterior segment of the eye until the temperature of this portion is raised by closure of the eyelids. He also contends that nictitation causes such constant movement of the bacteria and so cleans the surface of

the cornea that they find it difficult to grow. Prolonged closure of the eyelids, as in photophobia and blepharospasm from exposure of the epithelial plexus of nerves, such as is found in superficial ulcerations and abrasions, raises the corneal temperature practically to body temperature, and thus the natural inhibiting action enjoyed by the cornea during health becomes impaired.

The author's treatment of corneal ulcerations and abrasions consists mainly of allaying the pain and photophobia, so as to enable the patient to open the eyelids freely, and thus restore normal temperature and nictitation. For this purpose cocain is advisable, but not in watery solution, because of its desiccating action upon the corneal epithelium. He dissolves the cocain in oil, and claims that thus used it has no deleterious action, and that the eye is made comfortable for several hours, when it is used again. The patient is able to keep the eye open and normal corneal temperature and nictitation are restored. The following ointment is recommended:

Lanolini, 2 drams.  
Cocain, 3 grains.  
Atropin, 2 grains.  
Hydrargyri oxid flav. 2 grains.

M. Sig.: Apply in eye three times daily.

##### Medical Department for Moffat Road.

Dr. L. E. Lemen and Dr. Hugh L. Taylor are now at work organizing a medical depart-

ment for the Moffat railroad. All along the line resident physicians will be in charge of medical affairs in the various towns.

## DEPARTMENT OF FOREIGN LITERATURE:

German—W. J. BAIRD, M. D., Editor.

THE VALUE OF LARGE DOSES OF OLIVE OIL  
IN DISEASES OF THE STOMACH.Blum (*Berlin. klin. Woch.*, No. 21, 1905):

1. Very few stomachs will bear olive oil in large doses, and even small doses are rarely well borne.

2. In cases of hyperchlorhydria with or without hypersecretion, large doses of olive oil diminish the acidity, stimulate peristalsis and nutrition, but permanent results have not been attained.

3. Ulcer of the stomach and duodenum, as well as pyloric stenosis, were not helped by large doses of the oil. In pylorus stenosis of high degree olive oil is contraindicated.

4. A case of unquestioned pylorus spasm was not benefited by large doses of olive oil.

## MARMOREK'S ANTI-TUBERCULOSIS SERUM.

The following reports on Marmorek's serum are abstracted from the *Berliner klinische Wochenschrift*, No. 46, 1904 (Mannheim), and No. 21, 1905 (Lewin):

1. Male, age 31, haemoptysis at 18 and 29 years, without further disturbance of health; two months before beginning of treatment a profuse hemorrhage; at beginning over upper lobe of left lung, front and back, dullness, weakened vesicular murmur, supra and infraclavicular fossæ, numerous rales, prolonged expiratory murmur. Right apex, weakened vesicular murmur, slight dullness. Troublesome cough, tubercle bacilli in sputum, dyspnea, emaciation. 120 c. c. of serum in thirteen doses within eighty days. Cough and sputum absent, normal vesicular respiration, percussion note normal, feels well. Gain in weight 25 pounds.—Klein and Jacobson.

2. Female, age 33, nun, hereditary predisposition to tuberculosis; previous health good. Gastric disturbance accompanied by fever; three weeks later cough; sputum contained tubercle bacilli, soon in enormous number; temperature 38.5-40. Upper half of right lung, front and rear dullness, breath sounds absent; numerous rales; 720 c. c. of serum in forty-five injections, and, owing to the appearance of streptococci in sputum, 200 c. c. of streptococcic serum in thirteen injections. Four months from beginning of treatment, aside from prolonged expiratory murmur in right supraclavicular fossa, physical signs normal, temperature below 37°; no bacilli, but an occasional streptococcus in sputum; feeling perfectly well.—Neele and de Carnieres.

3. Male, age 25; extensive pulmonary and laryngeal tuberculosis of two years standing. Cured.

Tuberculous osteitis of sterno-clavicular joint. Cured.

Male, six years; tuberculosis of knee joint. Benefited.

Female, 10 years; tuberculous osteitis of hip joint. Benefited.—Rothschild and Bruenier.

4. Nine cases. One intolerant; treatment discontinued. One discontinued treatment. One in advanced tuberculosis, general condition very bad; death at end of one month. One, female, age 21, labored respiration, pain in right side, weakened respiratory murmur, prolonged expiratory, sharpened inspiratory murmur and dullness at right apex. Twenty injections of serum within three and one-half months. Cured.

The remaining four cases benefited.—Moulatti.

5. Lewin visited various clinics where Marmorek's serum was being tested.

Male; retroperitoneal tuberculosis, tu-

berculous coxitis; four fistulæ discharging foul pus carrying tubercle bacilli; for more than six months unable to turn in bed without assistance. Three weeks after beginning of treatment out of bed, no discharge from fistulæ, appetite better, general condition much improved. Treatment continued.

Male, 20 years; received September, 1904; florid tuberculosis; the left lung entirely, the right two-thirds infiltrated; tubercle bacilli in sputum; general condition very bad. December, 1904, temperature normal; aside from left apex, physical signs normal; very little sputum; in good general condition; amount of serum not stated.—Latham.

6. Dubard, Paris. Fifteen cases received 5-10 c. c. every second day; eight seemingly cured; five, too short time under treatment to show results; two, unimproved. Usually after fifteen injections the dyspnea and night sweats had disappeared, expectoration diminished and weight increased.

7. Jaquerod, Sanitarium du Cham-mossaire, Leysin, has had excellent results with the serum (large number of cases), but reserves details for personal publication. He has had best results with small doses, usually a beginning dose of 5 c. c., and in case there is no rise in temperature 4 c. c. the next day, 5 c. c. the third day, and so for eight days. Then a pause of eight to ten days, followed by a second series of injections, usually in larger doses.

8. Veilard, Clermont, has treated twenty cases with Marmorek's serum, and believes that acute cases are helped by it, but advanced cases were little, if at all, influenced. When the urine gave the diazo reaction it disappeared under treatment.

9. Stephani, Montana, Switzerland: Case 1; October, 1904, had been sick eight months; both lungs (upper third) involved; in right small cavities; tuber-

culous caries of fifth cervical vertebra; abscess in right hypochondrium, with such intense pain that patient was confined to bed; insomnia; afternoon temperature, 38.5°. Latter part of October Marmorek's serum in daily doses of 5 c. c., and after a few doses the pain, tenderness and fever had disappeared. December 1st, dullness less marked; has increased in weight; the cavities seem to be healed, but some cough and bacilli in sputum; general condition good. Treatment continued.

Case 2, male, 20 years; galloping consumption; received September, 1904. Condition grew rapidly worse; temperature high; everywhere over both lungs moist rales. October 21st, Marmorek's serum; within one week increased appetite; gain in weight; soon clear of fever; general condition rapidly improved. By December 14th had gained in weight 15 pounds; night sweats had disappeared; a few subcrepitant rales at right apex, otherwise physical signs normal.

10. Marmorek has reports of some 400 cases treated with his serum. Of these about 300 were cases of pulmonary tuberculosis, and the cures (seemingly) number about 100. Of 21 cases of tuberculous meningitis, there were two cures. Of 100 cases of surgical tuberculosis, 80 per cent. were either cured or improved.

[NOTE—These reports almost convince one that Marmorek's serum is at least worthy a trial, especially in cases with high temperatures, cases not suitable for treatment with Koch's tuberculin; perhaps the serum might prepare the way—reduction of temperature—for the tuberculin.]

#### THE TREATMENT OF CARCINOMA OF THE SKIN WITH RADIUM.

J. Rehns and P. Salmon report the following case: Aged woman, carcinoma of nose, 3.5 c. c. in diameter. Cured in 76 days. Fourteen applications. The radium treatment has the same advantages over the surgical that the X-ray has, and

in addition it is much more convenient and uniform in its action. However it is more expensive.—(*Muench. Med. Woch.*, No. 31, 1905.)

#### THE DIAGNOSTIC TUBERCULIN REACTION IN CHILDREN.

Bela-Schick (*Jahrbuch fuer Kinderheilkunde*, Band 61, Heft 6) reports tests

on 120 children from 3 months to 14 years of age. As peculiar to children are the so-called prolonged reaction and more intense local reaction than in adults, and this the more marked the more recent the infection. From his results the author concludes that, used with children and in cautious doses, tuberculin is a valuable aid in the diagnosis of tuberculosis.

## NEWS ITEMS

#### Jewish Consumptives' Relief Society Dedicate Three Tents.

Three new tents were dedicated with appropriate ceremony last Sunday afternoon by the Jewish Consumptives' Relief Society at the sanitarium near Edgewater.

A large crowd of people interested in the work of the society went to the home and took part in the services, which centered about the tents which have been the gifts of outside organizations, located in different states.

The first tent was that of the Denver Consumptives' Aid Association of Philadelphia, an auxiliary organized by Mrs. C. D. Spivak while on her visit east. Mr. M. L. Caplan in a neat little speech presented the tent to the society on behalf of the Philadelphia auxiliary, and Mr. M. Amter accepted the gift for the Board of Trustees. Dr. C. D. Spivak presented the second tent, the gift of the St. Joseph Hebrew Tent Society, and read a Hebrew poem composed for the occasion by the secretary of the St. Joseph society, Mr. Gerson Rosenzweig, the Hebrew Mark Twain and author of the widely known *Masehktta America*. The tent was accepted on behalf of the Board of Trustees by Mr. A. L. Freiborg. The third tent, the gift of the Ladies' Branch No. 1 Arbeiter Ring of New York, was presented by Mr. J. Marinoff, the superintendent of the sanitarium. In the course of his remarks he said that while on his visit in New York he addressed the poor working girls of the Lubin Branch, and he hesitated to ask them for a tent. The president of the society, Mrs. Sokolski, sprang to her feet and said: "We shall build a tent on the pennies we will save by eating one roll less for our breakfast." The tent was accepted on behalf of the Board of Trustees by Mr. Max Taheck, a member of the Arbeiter Ring. Mr. Leonard Leisersohn, grand secretary of the Order Brith Abraham, was in-

troduced to the audience by the President, Dr. Hillkowitz, and he delivered an address in which he extolled the methods of relief adopted by the sanitarium and promised to do his utmost in furthering the interests of the J. C. R. S.

Aside from the tents, an inspection was made of the administrative house, which is nearing completion, and plans discussed for the many improvements which are under way. The grounds will be graded and decorated under the supervision of Superintendent Barri of the City Park, who has volunteered his services.—*Jewish Outlook*, November 17.

#### The White Plague.

Humanity is changing color as it goes  
Its onward march—so are its miseries and  
woes;  
Of yore the fatal war-scurge was the terror  
red  
That like a bloody blade hung o'er the nation's  
head,  
Black epidemics swept and thinned the hu-  
man race,  
Turning whole continents in one huge burial  
place;  
Now fate, unsated still, is on our heels once  
more,  
But not in robes of night or crimson garb  
of yore—  
This greatest of all human sufferings, we call  
White Plauge, though blackest, fiercest of  
them all,  
All silently it gathers in, its harvest dread,  
And, killing inch-wise, long parades its living  
dead.

—S. Bloomgarden (Yehoash).

#### French Government Interested in Tuberculosis.

A plan which is said to have the approval of the French government, thus assuring its adop-



tion wherein a \$200,000 prize for the discovery of a cure for consumption is to be offered, is announced from Paris. The rapid growth of the discussion at the Tuberculosis congress and the activity of the medical press may be said to be responsible for the contemplated action.

Evidence has been brought before the State Board of Pardons of Wyoming, which is said to conclusively prove the innocence of Dr. Potts, the Buffalo physician who was supposed to have shot a man at Big Horn, Wyoming, during a drunken melee in 1900. Dr. Potts received a sentence of twenty years in the state penitentiary. At the time of the shooting several shots were fired, and in the confusion consequent thereto it was thought Potts had fired the fatal shot, but he was so completely under the influence of liquor that he was unable to throw any light upon the affair, though he always insisted he did not fire the shot. There seems to be no question of the doctor's early release.

Dr. William C. Bane will not remove from the Steele block to the Academy of Medicine building, as had been announced. Dr. Bane was very reluctant to leave his old stamping ground, with its central location, and is naturally pleased that the rebuilding of the Steele block will not interfere with him further than

to place him one floor higher up. Modern elevators will be installed for the accommodation of the third floor offices. This arrangement will also accommodate Dr. J. M. Blaine, who is wearing a very broad smile since he learned he would not have to move.

Dr. T. Mitchell Burns, the consulting editor of The Journal, has celebrated his advent into the capitalist class by purchasing a new home at 1252 Corona street, where he is now nicely located. His residence phone is now York 442, and his residence hours 9 a. m. and 7 p. m. His office will remain at 1434 Glenarm street, in the Academy of Medicine building.

The Journal has been favored with a valuable article by Cuthbert Powell, M. D., of Denver, entitled "A Few Points For Life Insurance Examiners," which will appear in our December number. Dr. Powell, in addition to being gynecologist to the Denver City and County Hospital and the National Jewish Relief Society, and member of the medical and surgical staff of St. Luke's Hospital, is medical referee for the Mutual Life Insurance Company of New York, and medical examiner for the Mutual Benefit Life Insurance Company of Newark, N. J., as well as the Mutual Life, and has something worth while to say upon the subject treated.

## BOOK REVIEWS

**International Clinica.** A Quarterly of Illustrated Clinical Lectures, and Especially Prepared Original Articles on Treatment, Medicine, Surgery, Neurology, Pediatrics, Obstetrics, Gynecology, Dermatology, Pathology, Ophthalmology, Otology, Rhinology, Laryngology, Hygiene, and Other Topics of Interest to Students and Practitioners. By leading members of the medical profession throughout the world. Edited by A. O. J. Kelly, A. M., M. D., Philadelphia. Volume II. Fifteenth series. 1905. Price \$2.00. J. B. Lippincott Co., publishers, Philadelphia.

The International Clinica have long been known to the medical profession, and very favorably. They occupy a place not otherwise filled in the consulting library. Having the clinical form makes the work easier read than the usual contributions to medical literature.

The present volume in no way is inferior to those preceding, but will rather tend to maintain the high reputation already attained.

Perhaps the most ambitious contribution to the volume is the article on the "Diagnosis of Incipient Thoracic Tuberculosis," by Robert N. Willson, M. D., occupying some fifty-five pages. This is not easily abstracted, but, in view of the fact that the subject of beginning tuberculosis is not satisfactorily treated in any of the single-volume works on practice, it cannot fail to be of value to every practitioner.

Dr. D. Barty King, M. A., M. D. (Edin.), M. R. C. P. (Edin.), presents a physiological study of the action of adrenalin chlorid when given in pulmonary hemorrhage, from which it may be deduced that the general use of this drug in this trouble is to be deprecated.

Drs. Sabouraud and Noire, of Paris, in their

article on the "X-ray Treatment of Tinea Ton-surans," give a safe method of treating this affection with the X-ray which reduces the time necessary for a cure to three months.

A. L. Benedict, A. M., M. D., of Buffalo, in an article on "Seasickness, with Special Reference to its Pathogeny," presents this theory of equilibrium which also gives his idea of the cause of seasickness. "My own conviction is that, normally, our ideas of direction, motion, etc., are very largely due to the inertia of the liver and to a less degree of the other large viscera. \* \* \* This theory also explains rationally the connection between nausea and vomiting and disturbances of equilibrium, on the ground that the reflex is in the area of the same nerve. Cardiac depression is similarly explained."

Drs. Lermoyez and Bellin, of Paris, in the article on "Acute Purulent Generalized Meningitis," add two cases to the very scant literature of cured acute purulent generalized otogenic meningitis, and present what they consider to be the present-day laws for its treatment.

In the article on "Traumatism as an Etiological Factor in Infectious Diseases of the Bones and Joints," Dr. Charles Greene Cumston, of Boston, presents a valuable description of the relation of traumatism to the production of a locus minoris resistentiae, and also of latent infection.

Dr. Felix Terrier, of Paris, in an article on "The Use of Scopolamin as a General Anesthetic in Surgery," gives the technic and the advantages of this drug (which is identical with hyoscin) in general anesthesia.

An exceedingly interesting paper is the one entitled "The Anatomy, Physiology, and Pathology of the Chromaffin System, With Special Reference to Addison's Disease and Status Thymicus," by Joseph Wiesel, M. D., of Vienna, which we shall have abstracted for a subsequent number of The Journal. He gives a description of the chromaffin cells of the adrenal medulla and ascribes the effect of adrenal extract solely to this portion of the adrenal body. He maintains that Addison's disease is a specific affection of the chromaffin system, and that sudden death in the status thymicus may be traced to hypoplasia of the same system.

There are numerous articles which, from their nature, do not lend themselves to abstracting but are nevertheless of none the less value to the reader. Altogether it may readily

be concluded that this volume, at least, is very well worth the price.

#### **The Practical Medicine Series of Year Books.**

Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Issued Monthly Under the Editorial Charge of Gustavus P. Head, M. D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Volume III. *The Eye, Ear, Nose, and Throat.* Edited by Casey A. Wood, C. M., M. D., D. C. L., Albert H. Andrews, M. D., Gustavus P. Head, M. D. Series 1905. The Year Book Publishers, 40 Dearborn St., Chicago.

This series of volumes, appearing once each month for ten months in the year, furnishes a most convenient and at the same time a most satisfactory year book of the advances in the entire field of medical science. It is intended especially for the practitioner, and the reviews are written with that in view.

The additions to the literature of the diseases of the eye for the year have been so numerous that the abstracts are necessarily very short, and only the barest statement of the most important features could be given. They present, however, a comprehensive view of the work done in that field.

As is usually the case, not so much has been done in the field of the diseases of the ear. This allows the editor a little greater latitude in the treatment of his subject. Of special importance is the subject of middle ear trouble resulting in deafness, which is given very extensive consideration. The same is also true of mastoid diseases, and the brain and sinus disease resulting from aural affections.

Of more interest to the general practitioner is that portion of the volume devoted to the nose and throat. During the past year laryngeal tuberculosis has received considerable attention in medical publications, and the subject is proportionately treated in this volume.

**A System of Physiologic Therapeutics.** A Practical Exposition of the Methods, Other than Drug-giving, Useful in the Prevention of Disease and in the Treatment of the Sick. Edited by Solomon Solis Cohen, A. M., M. D., Professor of Medicine and Therapeutics in the Philadelphia Polyclinic, Lecturer on Clinical Medicine at Jefferson Medical College, Physician to the Philadelphia Hospital, and to the Rush Hospital for Consumptives.

etc. **Volume VI. Dietotherapy and Food in Health.** By Nathan S. Davis, Jr., A. M., M. D., Professor of the Principles and Practice of Medicine in Northwestern University Medical School; Physician to Mercy Hospital and Wesley Hospital, Chicago; Member American Medical Association, American Climatological Society, etc. Philadelphia. P. Blakiston's Son & Co., 1012 Walnut street.

This eleven volume work forms the most ambitious work on Physiologic Therapeutics published in this country. The present volume fully sustains the reputation attained by the preceding volumes of the set.

The work is divided into two parts, the first being devoted to the general principles of diet and diet in health, and the second to diet in disease.

In the first section, the author has taken up the general physiological considerations, giving a review of the physiological and chemical data of foods and beverages of the most varied sorts in sufficient detail to make it complete. Of special interest and value are the numerous plates of graphic representation of food values, dietaries, etc. The chapters on diet in health and on infant feeding are given, and are worthy of, considerable attention. The discussion of the composition of the various foods and their food values will form a considerable fund of information most valuable for consultation by the practitioner.

The portion devoted to dietotherapy proper discusses the administration of food as adapted for the individual diseases. Where necessary the author has taken up the subject of etiology and treatment, as bearing on the proper diet to be administered. The methods of feeding the sick are also given attention.

As too little attention is generally paid to the subject of diet in disease, probably from the fact that the conceptions of the physician on this subject are hazy and indefinite, a work of this sort urges itself upon the attention of the practitioner. This particular volume he will find to meet his wants in an eminently practical way, and to be replete with information and suggestions which he can not help but find profitable to him and his patients if he takes advantage of them.

**Tumors of the Cerebellum.** Five papers reprinted from the New York Medical Journal and Philadelphia Medical Journal for February 11 and 18, 1905. A. R. Elliott Publishing Co., 66 Broadway, New York, 1905.

This monograph comprises but 175 pages, but within this space may be found much original clinical observation and also extensive review of the literature pertaining to this subject. The authors of the several papers are: Charles K. Mills, Charles Frazier, George E. DeSchweinitz, T. H. Welsenberg, Edward Lodholz.

Beginning with clinical diagnostic consideration of cerebellar tumors and those of the cerebellopontile angle; these growths are further discussed from a surgical standpoint; with reference to ocular symptoms and their pathology. A paper upon functions of the cerebellum is appended.

Owing to the exceptional difficulties and limited available field of operation in the surgical treatment of cerebellar tumors, one gains the impression that surgery must fail to bring relief to many of these cases, while occasionally its results are brilliant. Yet, until the arrival of specific treatment of malignant growths, surgery is the best that medical science can offer in these cases. In all, the reader is placed abreast of the latest facts concerning an important class of brain neoplasms, and for this reason the book will be indispensable to every neurologist and brain surgeon who does not possess the essays as originally published. B. O.

**Eye, Ear, Nose, and Throat Nursing.** By A. Edward Davis, A. M., M. D., Professor of Diseases of the Eye in the New York Post-Graduate Medical School and Hospital, and Beaman Douglass, M. D., Professor of Diseases of the Nose and Throat in the New York Post-Graduate Medical School and Hospital. With 32 Illustrations. Pages XVI-318. Size, 5½ x 7¾ inches. Extra Cloth. Price, \$1.25 net. F. A. Davis Company, Publishers, 1914-16 Cherry Street, Philadelphia.

This work, intended for nurses, can be profitably studied by students and those practitioners who have anything to do with the treatment of diseases of the eye, ear, nose, or throat. It is a thoroughly practical work on the nursing of affections of these organs. A short sketch of the clinical symptoms of these several diseases is given so as to assist the nurse in recognizing those facts, observation of which will be of assistance to the physician in charge of the case. Full and explicit directions for the administration of remedies, making applications of various sorts, applying dressings, and the details of nursing in general as applied to this special work are given.

**Transactions of the State Medical Association of Texas.** Held at Austin, Texas, April 25 to 29, 1904. I. C. Chase, M. D., Secretary, Fort Worth, Texas.

The Texas State Medical Association meetings are always characterized by an abundance of good work, and the transactions always form a valuable volume because of this good work. The present volume is no exception to that rule. It contains some six hundred and fifty pages, five hundred of them being devoted to the scientific work. This covers the entire field of medicine and surgery and is thoroughly representative.

It is to be regretted that, through the establishment this year of a journal published by the association, the transactions will no longer appear in volume form, for it is safe to say that not one per cent. of those who would gladly preserve in their libraries the volume of transactions will think of having the association's monthly publication bound.

**Beauty Through Hygiene. Common Sense Way to Health for Girls.** By Emma E. Walker, M. D., Member of the New York Academy of Medicine, etc. Illustrated. 1904. Price \$1.00. A. S. Barnes & Co., publishers, New York.

As a whole this book may be recommended. It appeals to women through one of the strongest influences—their desire for beauty. Most of it is a common sense exposition of the fact that beauty can be had only by those in good health, and presents the many hygienic measures, especially exercise, in an attractive way.

While by far the greatest portion of the work must meet with commendation without reservation, the first chapter is very disappointing to one not tainted with occult faddism, as is the impression of the author given in this chapter. For example, how does this quotation sound? "I combine the occult principle with deep breathing, night and morning, inhaling with the pure air all of these beautiful qualities of love, health, wisdom, usefulness and power for good, cheerfulness and opulence—these seven covering the whole ground of my desires—filling the chest and abdomen fully. In exhaling I get rid of all the opposite qualities which would do me an injury, such as,

prejudice, weakness, folly, poverty, etc." It leaves unexplained, however, how she can inhale and exhale these qualities. Perhaps the beneficial qualities are oxidized into the malignant ones by the process of respiration. Also, we should like to know how she fills her abdomen by inhalation.

As the foregoing quotation is also given in the book as a quotation, it may not represent the author's views. That is not true of the following, however. In giving directions for deep inhalation, she says: "Hold for a few seconds, letting the thought pass through the inside of the body." Now, how does that sound, coming from the pen of a physician?

**Manual of Psychiatry.** By J. Rogers De Fursac, M. D., formerly Chief of Clinic at the Medical Faculty of Paris. Authorized translation from the French by A. J. Rosanoff, M. D., Junior Assistant Physician Long Island State Hospital, Kings Park, N. Y. Edited by Joseph Collins, M. D., Professor of Diseases of the Mind and Nervous System in the New York Post-Graduate School, etc. First edition. New York, Jno. Wiley and Sons; London. Chapman and Hall. Limited. 1905.

The above is a small handbook on Psychiatry which, with slight changes, follows the classification of Kraepelin. It will prove serviceable to the student in an initial study of this branch of medical science by pointing out to him in a concise, compend-like manner the various recognized clinical forms of insanity as well as their subordinate phases. Given a case diagnosis, by the aid of this work its chief characteristics can be studied. More cannot be expected of any manual whose brevity of text precludes full clinical discussion that gives broad conceptions of accepted types, while it at the same time demonstrates that these forms constantly merge one into another. However, for first studies in mental alienation where the student must play by rule, descriptive inflexibility is no fault, and the book is therefore cordially recommended. The neurosis of fear with superimposed insane conditions, as recognized by Kraepelin, is not included in classification or text. This is an error, as the type, although perhaps rare, is occasionally encountered.

B. O.

An experienced Regular wishes to care for the practice of any doctor wishing to take

one to two weeks' vacation during holidays Address E. L., care Journal.





JAMES MILTON BLAINE, M.D.

MEMBER PUBLICATION COMMITTEE  
COLORADO STATE MEDICAL  
SOCIETY

# The Colorado Medical Journal

AND

## WESTERN MEDICAL AND SURGICAL GAZETTE

A SCIENTIFIC MEDICAL JOURNAL, DEVOTING SPECIAL ATTENTION TO TUBERCULOSIS  
AND CLIMATOLOGY—A JOURNAL OF SCIENCE, OF NEWS, AND OF MEDICAL LORE

VOL. XI

DENVER, COLORADO, DECEMBER, 1905

No. 12

## ORIGINAL ARTICLES

### PRESIDENT'S ADDRESS\*

By GEORGE BROWN, M. D., Atlanta, Ga.

*Gentlemen of the American Anti-Tuberculosis League:*

It is useless for me to say that you have a welcome from me. I have corresponded with you all, and it is truly gratifying when I think that before me, are men of humanity, men who love their fellowman, and men who are willing to sacrifice time and money to come to this meeting that they can, by putting their shoulders to the wheel, help along this great work and be able to say, "I do this much to help those who are to come after me, without money and without price—this is my contribution to those of humanity who may be benefited by this great work."

This is the sentiment that has brought us here. It is one above all personal motives, and it is the one taught by the Great Physician when he said, "Love thy neighbor as thyself."

"This is the kind of a man for me,  
He faces the world unflinchingly,  
And smites as long as the wrong exists,  
With a knuckled faith and force-like fists,  
He lives the life that he preaches of,  
And loves where most is the need of love.

"His voice is clear to the deaf man's ears,

\*Delivered at the opening exercises of the American Anti-Tuberculosis League, Atlanta, Ga., April 17, 1905.

And his face sublime through the blind man's tears,

The light shines out where the clouds are dim,  
And the widow's prayer goes up to him,  
The latch is clicked at the hovel door,  
And the sick man sees the sun once more.

"And out o'er the barren fields he sees,  
Swinging blossoms and waving trees,  
Feeling as only the dying may,  
That God's own servant has come that way,  
Smoothing the path as it still winds on  
Through the golden gates where his loved had gone."

Down through the countless ages in which mankind has lived and loved, suffered and died, we have the same kind assuring hands, though they may be reddened by the scorching suns of summer or broken by the frost of winter, we see them everywhere—dear, strong, manly hands whose mission is to help and relieve humanity,—on the field of battle, 'mid Arctic snows, and Tropic fevers, we see them always, the doctor's kindly helpful hands working to save his fellowman from disease and agony.

No wonder I am glad to welcome you here for I see those same kind hands which, scorning the wrong, are ever ready at the sufferer's call. As Dr. Ralcey H. Bell has so sweetly said, "I like to think in these degenerate days there are souls

which still possess the freshness of fancy that made the world to blossom as a garden in the dear dim olden time. A Physician who ministers to the stricken and poor without fee or price, a man who with ever open palm is ready to help those less fortunate than he, and a man whose pure heart and high resolve embraces the frailties of the weak—who lovingly forgives and, like nature, forgets—who is ever building where smaller spirits would demolish, is unto the weary world as a loving Prince of Light."

As such I apprehend the souls of those I see before me to-day.

The mission that brings us here will carry with it the good wishes of the world and the prayers of many, for all of the afflicted on God's great footstool, who are more to be pitied and prayed for than those we would benefit.

Who can know of the long sleepless nights, the terrible agony of the tiresome, weary days, days of inaction, days of alternating hope and despair, days of rebellion and days of resignation,—days in which the world is clothed in beautiful sunshine and the air is full of music, laughter and song—days when the drenching storm beats a funeral march on every window pane and the roaring of the winds recall only the ashes of memory and wrecks of hope.

What a sad procession has passed through the offices of those I see here to-day—little children of tender years, sturdy youths and rosy-cheeked, beautiful girls, young mothers with the kisses of their angel babes warm on their lips, sturdy breadwinners with horny hands and broad shoulders who were manfully battling with the problems of life for those they loved. Can you not close your eyes and recall this panorama of faces which you have seen, and which like the flowers of summer have faded and gone

—gone to that rest so sweet and to the Beautiful City so fair.

"The Beautiful City! O mortal,  
Fare hopefully on in the quest,  
Pass down through the green grassy portal,  
That leads to the valley of rest.

"There first passed the One who in pity,  
Of all the great yearning awaits,  
To point out the Beautiful City,  
And loosen the trump at the gates."

We are here to-day to plea for better things for those sufferers, better treatment, better laws, and better attention. The old world of ours has awakened to the fact that there is a useless sacrifice of life in permitting over one million deaths a year from this scourge of earth. In our country over 150,000 die annually from this dreaded consumption.

We are appalled at the report of an accident in which a steamer is burned and a thousand lives are lost; our sympathies go out to the fate of miners lost by the score in the gloomy depths of mines, and we read of railroad wrecks with a shudder of horror, but we see these doomed victims drop off one by one and we do not realize the number of them that pass to the great beyond from this dread destroyer.

All honor then to those who are here to-day to try to check this stream of death which when the cold statistics are received chills one with horror. God grant that they may bring hope to the hearts of many a poor sufferer, and brighten many a desolate household.

"Primeval hope, the Aonian Muses say,  
When man and nature mourn'd their first decay,  
When every form of death, and every woe,  
Shot from malignant stars to earth below,  
When Murder bared her arm, and rampant War  
Yoked the red dragons of her iron car,  
When Peace and Mercy, banished from the plain,  
Sprung on the viewless winds to Heaven again,  
All, all forsook the friendless, guilty mind,  
But Hope, the charmer, linger'd still behind.



"Auspicious Hope, in thy sweet gardens grow  
Wreaths for each toil, a charm for every woe;  
Won by their sweets, in Nature's languid hour,  
The wayworn pilgrim seeks thy summer bower;  
There, as the wild bee murmurs on the wing,

What peaceful dreams thy handmaid spirits  
bring,  
What viewless forms th' Aeolian organ play,  
And sweep the furrow'd lines of anxious thought  
away."

### ADDRESS OF WELCOME\*

By WILLIS F. WESTMORELAND, M. D., Atlanta Ga.

*President Georgia State Board of Health*

*Mr. President and Gentlemen:*

Atlanta has welcomed and entertained the representatives of the various interests of this great country until she is known as the "Convention City." Their coming is always a source of pleasure, but of greater pleasure is this gathering of earnest physicians, coming from various points, banded together into a league international in scope and noble in purpose, using your intellectual forces in planning for the prevention and cure of that ubiquitous disease, tuberculosis, so aptly called the "Great White Plague;" the probable infector of all who reach maturity, and respecter of none;—coming, frequently at a personal sacrifice, to give freely of your science and knowledge for the alleviation of human suffering.

We welcome you, and, as well, the inauguration of this great movement to popularize and educate the people to this idea of prevention as a substitute for the specific or medicinal treatment of this disease, which, perfected, will do for the whole human race what a cure can only occasionally do for the infected individuals. What a blessing and comfort it

will be to all, particularly parents, when you have taught them to know that this disease, limitless in its invasion and pitiless in its encroachment on humanity, is rarely inherited, but usually acquired; that its causation is more environment than inheritance; "that by the infected individual the tubercle bacilli are breathed forth and scattered by every breeze to ripen in the broad bosom of humanity," and that the greatest treatment is that "divinely furnished" pure air.

This is the era that condenses glittering generalities into practical working data. "Prevention is not so dramatic as a brilliant cure, nor does it so appeal to the imagination," but it is certain, and not followed by the "disillusioned enthusiasm" as is the so-called certain cure, which, after a burst of newspaper notoriety, sinks into oblivion.

Do not let the indifference of the present discourage you; your work will grow greater with time. What of greater mortal interest can there be than this work?

Gentlemen, we welcome you for yourselves, and cordially extend to you our Southern hospitality.

### ADDRESS OF WELCOME\*

By JOHN C. OLMSTED, M. D., Atlanta, Ga.

*Mr. President and Gentlemen of The American Anti-Tuberculosis League:*

It gives me great pleasure in behalf of the physicians of Atlanta, to extend to you our most cordial and appreciative welcome. We greet you with sentiments

\*Delivered to the American Anti-Tuberculosis League, Atlanta, Ga., April 17, 1905.

of mingled gratification and pride; gratification that you have honored us by selecting this city as the place for your assembly: and pride that you illustrate in your organization, with its lofty motive and noble effort, the best traditions of our honored profession.

In this age and country, commercial-

ism and the pursuit of wealth would seem to have almost monopolized every department of human aspiration and endeavor. It is not to be denied that this spirit of commercialism, this standard of the dollar, has made its presence felt in our own profession, often to the exclusion of those lofty ideals and aims which should be its chief incentive and inspiration. But a "league" or combination such as yours, in this era of "combines" and "trusts," subserves no selfish interest, seeks no personal gain. You have gathered here from many states, some far remote, and all of you at the loss of otherwise valuable time, and attendant expense. Your presence is an effectual proof to the cynical and unbelieving that *not yet* have the "money changers" taken entire possession of the sacred Temple of Esculapius.

You are met to advance a campaign

against the most insidious, far-reaching and destructive disease that afflicts civilized humanity; a foe that "rests not at night;" which spares neither the hovel of the poor nor the palace of the rich; a foe which lays its withering and corrosive touch upon the fair fabric of civilization "like as it were a moth fretting a garment!" May your wise councils and matured experience formulate measures which shall hasten the day of our deliverance from that which has been well called "the Great White Plague!" Your cause is that of humanity, your standard that of "the Great Physician"—

"Who took the suffering human race,  
He read each wound, each weakness clear,  
And struck his finger on the place,  
And said, 'Thou aildest here! and here!'"

Again gentlemen, I welcome you to our hearts and our homes.

#### TRANSACTIONS OF THE AMERICAN ANTI-TUBERCULOSIS LEAGUE, HELD AT ATLANTA, GA., APRIL 17-19, 1905

MONDAY, APRIL 17, 1905.

##### *Morning Session.*

The opening exercises of the League were held in the Hall of the House of Representatives, Georgia State Capitol, Monday, April 17, 1905, at 10 a. m.

Welcoming addresses were delivered by the Hon. J. M. Terrell, Governor of Georgia, Hon. Clark Howell, editor of the Atlanta Constitution, Mr. Robert F. Maddox, President Atlanta Chamber of Commerce, Dr. Willis F. Westmoreland,\* President of the State Board of Health, and Dr. John C. Olmsted,\* Reception Committee of Atlanta physicians.

Dr. George Brown, President of the League, delivered the Opening Address,\* after which the following scientific papers were read:

"Some Sociologic Considerations for

\*Appear in this number.

the Anti-Tuberculosis Crusade." By Dr. Marion G. Chancy, Key West, Florida.

"The Rational Way, or the Use of Common Sense in the Treatment, Management, and Prevention of Tubercular Diseases." By Dr. J. C. LeHardy, Savannah, Georgia.

"Duty of the State to Those Suffering from Tuberculosis."\* By Dr. R. E. Conniff, Sioux City, Iowa.

"The Civil Aspect of Tuberculosis. Including the Crusade of Education and Legislative Aid." By Dr. H. B. Weaver, Asheville, N. C.

"Tuberculosis in the State Institutions in Tennessee." By Dr. W. J. McMurray, Nashville, Tenn.

"Some Methods of Treatment of Tuberculosis." By Dr. A. C. Foster, Morganfield, Ky.

"How Can Conditions Chiefly Responsible for the Spread of Tuberculosis be

Overcome?" By Dr. J. M. Masters, Newport, Tenn.

"Some ways to Prevent the Spreading of Tuberculosis."\* By Dr. Thos. A. Jones, Ridgeway, Ill.

#### *Afternoon Session.*

The afternoon session opened at 2:30 p. m. and the following papers were read:

"The Crusade Against Tuberculosis." By Dr. Charles A. Julian, Thomasville, N. C.

"The Best Means to Stamp Out Consumption." By Dr. R. F. Hanesberger, Beckville, Texas.

"The Climate of Florida in Tuberculosis." By Dr. Henry H. Stout, Jacksonville, Florida.

"Tuberculosis, Past, Present and Future." By Dr. C. C. Curtis, Lower Peachtree, Alabama.

"Can Tuberculosis be Eradicated?" By Dr. C. Barlow, Robinson, Ill.

"Sanitation and Isolation, Two Requisite Factors in the Eradication of Tubercle Bacilli." By Dr. W. H. Vail, St. Louis, Mo.

"Reports from Some Tuberculosis Sanatoria." By Dr. Thomas Franklin Smith, New York City.

"The Humidity of Our Houses." By Dr. Mark Millikin, Hamilton, Ohio.

"The Use of Phenol in the Care and Treatment of Tubercular Patients." By Dr. Chas. M. Watson, Florence, Ala.

"The Personal Equation of Our Tuberculous Patients." By Dr. W. F. Bogges, Louisville, Ky.

#### TUESDAY, APRIL 18.

The Tuesday session was opened at 9:00 a. m., with prayer by the Rev. B. H. Holt. Only one session was held, the remainder of the day being devoted to pleasure and a Georgia barbecue given by the local reception committee at the Cold Springs Cue Club. The following papers were read:

"Educational Influence and Signifi-

cance of Sanatoriums for Cases of Incipient Tuberculosis." By Dr. George Homan, St. Louis, Mo.

"The Roentgen Light in the Early Diagnosis and Treatment of Tuberculosis." By Dr. J. Rudis-Jicinsky, Cedar Rapids, Iowa.

"The Cottage Treatment of Phthisis in Florida."\*\* By Dr. J. D. Bennett, Crystal River, Florida.

"Home Care and Treatment of Tuberculosis." By Dr. S. B. Flynt, Meridan, Florida.

"Some Clinical Experiences in the Treatment and Prevention of Tuberculosis." By Dr. August P. Clarke, Boston, Mass.

"Differential Diagnosis of Tuberculosis and Some Lung Diseases." By Dr. A. A. McKitterick, Evergreen, Alabama.

"The Physician's Paramount Duty to the Patient and Family in Tuberculosis."\*\*\* By Dr. C. P. Ambler, Asheville, North Carolina.

"The Tuberculous Woman in Colorado." By Dr. Mary Hawes, Denver, Colorado.

"Our Family Physician." By Dr. Olivia Nelson, Paducah, Ky.

A telegram was received signed by Bryan T. Barry, Mayor of Dallas, Texas, and John G. Hunter, Secretary, presenting a cordial and urgent invitation on the part of the city of Dallas and the Dallas Commercial Club for the League to meet in Dallas in 1906.

Resolutions to the following effect were presented by Dr. Mark Millikin and adopted: *Resolved*, That the American Anti-Tuberculosis League extend to the city of Dallas, Texas, through her able representative, Dr. J. R. Briggs, a vote of thanks for the kind and generous invitation to this League to meet in that city next year.

\*Appeared in the number for May, 1905.

\*\*Appeared in the number for June, 1905.

\*\*\*Appeared in the number for November, 1905.

WEDNESDAY, APRIL 19.

*Morning Session.*

At the morning session held at 9 a. m. the following papers were read:

"Heredity a Factor in Tuberculosis."

By Dr. G. J. Ross, Sioux City, Ia.

"Anti-Tuberculosis." By Dr. T. N. Gray, East Orange, New Jersey.

"Tuberculosis." By Dr. John P. Blankenship, Maryville, Tenn.

"The Diagnosis of Early Consumption." By Dr. Hazel Padgett, Columbia, Tenn.

"The Clinical Research Laboratory an Essential Factor in the Effort to Exterminate the Great White Plague."\* By Dr. Frank C. Wilson, Louisville, Ky.

"What Advice Should be Given Relative to the Employment of Tuberculous Subjects in Cotton Mills?" By Dr. J. H. Hammond, LaFayette, Ga.

"Outdoor Life a Prevention." By Dr. J. G. Brooks, Paducah, Ky.

"The Importance of Disinfecting Any Apartment that Has Been Occupied by a Tuberculous Subject." By Dr. E. L. McGhee, New Orleans, La.

"Heredity." By Dr. Wm. S. Alexander, Oxford, Ohio.

"The Mind as an Aid in the Cause and Cure of Tuberculosis." By Dr. D. E. Morgan, Gerard, Alabama.

The nominating committee, consisting of Dr. T. V. Hubbard, Chairman; Dr. R. C. Dugan, Secretary; Dr. Mark Millikin, Dr. Preston H. Hickey, Dr. A. H. Van Dyke, and Dr. Geo. R. Dean, appointed by the President, nominated the following officers for the League for 1906:

For President, Dr. R. E. Conniff, Sioux City, Iowa; for Secretary and Treasurer, Dr. Walter N. Vilas, El Paso, Texas.

They were unanimously elected. El Paso was selected by the committee as the next place of meeting, the time being left to the incoming President.

*Afternoon Session.*

The afternoon of the last day was occupied mainly by business and committee reports. The following papers were read:

"Considerations on the True Causes of Tuberculosis and its Treatment by Psychotherapy." By Dr. J. A. Reviere, Paris, France.

(a) "Phymol, a Memoir on the Treatment of Pulmonary Consumption with a New Drug—Its Composition, its Therapeutic Value, its Indication, its Mode of Employment."\*

(b) "Notes on Bacillosine, as a Remedy Against Tuberculosis."\* By Dr. Gullanne Livet, of the Faculty of Paris.

"Tuberculosis in the Negro."\*\* By Dr. E. H. Jones, Murfreesboro, Tenn.

"Visit to New Mexico." By Dr. G. Huston Chapman, Uniontown, Ky.

"Isolation of Tubercular Subjects." By Dr. J. Frank Cordele, Trion, Ga.

"Human and Bovine Tuberculosis and Their Relation." By H. G. Cornes, V. S., Atlanta, Ga.

The following committee reports and resolutions were presented before the League and adopted:

"Your Committee on Resolutions begs to report that after thorough consideration of the various suggestions, motions, resolutions, and opinions expressed in essays and discussions, together with the matter especially submitted to the committee, it has formulated a concise and comprehensive statement of belief, expressing, the committee thinks, the consensus of opinion of the League, upon the broad foundation of which may be based many elaborations of detail and on the lines of which may be mapped out its future labors.

"Your committee submits the following formulated statements for adoption by the League, as the fundamental principles upon which its future work shall be

\*Appeared in the number for September, 1905.

\*\*Appeared in the number for July, 1905.

based and its official announcement to the public of the platform upon which it stands.

"First—Tuberculosis is communicable, not inherited. A predisposition to this disease may be transmitted from parent to child, but not the disease itself.

"Second—Tuberculosis is curable. When the presence of the germ is early recognized, it may be destroyed in the individual by the adoption of proper remedial measures.

"Third—Tuberculosis is preventable. Two factors are essential for its development. The presence of the germ and a soil favorable for its development. To some extent one or both of these factors are subject to intelligent control. The disease is, therefore, to this extent preventable.

"Fourth. We respectfully recommend the appointment by this League of three physicians in each state whose duty it will be to form State Anti-Tuberculosis Leagues to invoke the aid of the profession and the state in the crusade against this most dreaded disease.

"Resolved: That this League respectfully transmit a copy of these resolutions to the Secretary of each state society to be presented to the societies for consideration and action thereon and asking their cooperation.

"Resolved: That the object sought to be accomplished by this Congress of the American Anti-Tuberculosis League is to present to the American public practical and practicable methods and measures to avoid the infection of tuberculosis, to suppress its spread, and, in furtherance of this end, to endeavor by education to encourage a healthful condition of living through personal hygiene and domestic sanitation.

"Resolved, further, that a committee be appointed by the chair to prepare concise and forcible leaflets, tracts and pamphlets, and other literature intended

for the information of the public on the subject of tuberculosis and the manner in which it is usually acquired, how to prevent its spread by proper living and proper sanitary care of the patient and his dwelling, and for the presentation of this subject interestingly, practically, and understandingly; such literature to be distributed widely throughout the United States, in home, store, workshop, and factory.

"Be it also resolved, That the committee so appointed shall be authorized to solicit funds by popular subscription to defray the expenses for carrying out the purposes of this resolution."

DR. QUITMAN KOLNKEE, *Chm.*

DR. CHARLES A. JULIAN, *Sec.*

DR. H. B. WEAVER.

DR. EDWARD L. MCGHEE.

DR. U. V. WILLIAMS.

DR. C. S. JERNIGAN.

The Committee on Sanatoria made the following report, which was referred to the Committee on Resolutions:

"Whereas, The disease known as tuberculosis causes 150,000 deaths annually in the United States alone, and, whereas, tuberculosis is an infectious disease and as such is transmissible from person to person, and, whereas, each individual afflicted with tuberculosis constitutes, sooner or later, a source of infection for others, and thus becomes a menace to the public health, and, whereas, tuberculosis is a preventable disease and curable in its early stages;

"Therefore, be it resolved, that it becomes the duty of the state to exercise all proper means to prevent the spread and dissemination of this disease.

"Be it further resolved, that, as one of the most efficient means to this end, the establishment and support of institutions by the state for the isolation and care of those so seriously affected with this disease as to endanger public health becomes a public necessity equally as great as that

of providing the public support and care of the insane and of those who otherwise endanger the health, safety and well-fare of society.

"Furthermore, be it resolved, that it is the duty of the state: First, to protect, and, second, from an economic or paternal standpoint, to confer individual benefits, and that it is herewith recommended that the state provide additional sanatoria for the treatment and cure of such cases as are curable for the purpose of restoring those who may become again useful factors to the commonwealth."

DR. J. R. BRIGGS, *Chm.*  
 DR. J. M. MASTERS, *Sec.*  
 DR. F. G. THOMASON,  
 DR. C. P. AMBLER.  
 DR. C. C. CURTIS.

At a meeting of the Kentucky state delegation in Capitol Hall, Atlanta, Ga., April 18, 1905, Dr. U. V. Williams, of Frankford, was elected Chairman and Dr. H. R. Simmons, of Corinth, was elected Secretary.

It was resolved that the American Anti-Tuberculosis League be requested and empowered to name a committee of eight members, who shall act in conjunction with a like committee of the Kentucky State Medical Society and with the cooperation of the general medical profession of the state, whose combined duty it shall be to appear before the next session of the general assembly of the state of Kentucky and present the subject of state aid in establishing a state sanatorium for the prevention and cure of consumption and care for the indigent afflicted of the state, and to use any and all other honorable means to further and promote the same and to urge legislation looking to that end.

This was presented to the League and carried, whereupon the President of the League appointed the following committee, viz.: Dr. U. V. Williams, Chairman, Frankford; Dr. H. R. Simmons,

Secretary, Corinth; Dr. E. A. Cherry, Bowling Green; Dr. E. B. Pendleton, Hartford; Dr. Frank C. Wilson, Louisville; Dr. Joseph Martin, Cynthiana; Dr. J. G. Brooks, Paducah; Dr. J. W. O'Connor, Elizabethtown; with power vested in committee to add other names and appoint sub-committees and assign duties to the same.

The following motion was referred to the Committee on Resolutions:

"That the incoming President appoint a committee of three to investigate and formulate a plan whereby either by direct appeal to the Pullman Car Company or by state or national legislation, thorough fumigation of all sleeping cars can be secured at stated intervals."

Dr. Geo. R. Dean's resolutions to the following effect were adopted:

"Resolved, That the incoming President appoint a committee of five in each state, preferably members of state boards of health and men who are in sympathy with the League, to procure such legislation as will advance the ideas of this association, as promulgated in our articles of faith."

It was also resolved:

"That the thanks of the League be expressed to the Hon. Joseph M. Terrell, Governor of Georgia, for its generous offer of the place of meeting in the capitol building; to the committee having in charge the reception and hospitable entertainment of visiting members and delegates for the pleasures enjoyed as a result of their kindly efforts; to the press of Atlanta for its assistance in making known the objects and purposes of the League and the proceedings of its committees; and to the citizens of Atlanta whose cooperation contributed to its successful inauguration."

The League then adjourned.

The papers which have not been published in the COLORADO MEDICAL JOURNAL already will appear in subsequent numbers.

**A FEW POINTS FOR LIFE INSURANCE EXAMINERS**

By CUTHBERT POWELL, M. D., Denver, Colo.

In this day of almost universal insurance the members of the medical profession play a large part in the work of selection of risks.

The medical examiner is appointed by the company after careful inquiry into his habits, integrity and ability. He is not, as is often supposed, chosen by the agent, and the question of his carrying insurance bears little or no weight in his appointment.

According to Dr. Symonds, medical director of the Mutual Life Insurance Company of New York, there are about two hundred thousand appointments as insurance medical examiners in the United States and Canada, and about fifty thousand physicians hold these appointments; among these fifty thousand physicians regular life insurance companies divide annually about five million dollars.

In many instances it is impossible to procure efficient examiners in small towns. Many men are not fitted for the work by reason of lack of education, honesty or natural ability, and too many, I am sorry to state, look upon insurance examinations as matters of no importance or consequence.

The examiner is paid by the company, and not by the agent or applicant. The usual fee for an examination is three or five dollars. This is not a large fee for the work properly done, but when we consider the collectability (100 per cent.) as compared with the average fees for medical services, it is, to say the least, a fair remuneration. This being true, ought not the physician to give a fair amount of time and care to this part of his labors? He at least should make an honest examination to the best of his ability, and if he thinks the fee for the

work too small, or if he is unable to give the requisite amount of time and care to his examinations, then he should, if an honest man, resign his position in favor of one who can and will do the work properly.

Now, then, if the physician accepts an appointment as a life insurance examiner what are his duties, briefly stated, to the company?

As he is employed and paid by the company, it is his paramount duty to guard the interests of that company. A plain, careful and unprejudiced report upon the applicant brought to him for examination is essential. He is depended upon in a great measure for the selection of risks, and receives his fee whether the applicant be accepted or rejected. In order to make a report acceptable to the company it is necessary to bear the following points in mind:

All questions must be distinctly and fully answered in words. Dashes, ditto marks and blank spaces are not accepted as answers to questions. Erasures when necessary must be made by drawing a line through the word or words, and every such erasure must be initialed by the examiner.

Cases of illness and accidents must be fully and intelligently explained, giving number of attacks, cause, dates, duration, severity, complications and results.

The question regarding use of alcoholic liquors must be definitely answered. The usual answer of "occasional drink," "used in moderation," "once in a while," etc., is not acceptable. The average number of drinks per day, week or month must be noted, together with the form in which it is taken, and if the applicant uses near the maximum of one and one-

half ounces of pure alcohol daily a note should be made stating whether or not the applicant ever drinks to excess.

The family record, which is extremely important in life insurance records, is perhaps more carelessly elicited than any other answers on the examiners report. Such answers as "don't know," "child birth," "natural causes," etc., must be explained. If the applicant is really ignorant of the history of certain members of his family, the reason for this ignorance must be explained. One should note if there was or was not any suspicion of tuberculosis, cancer or insanity in members of applicant's family, the cause of death of whom is given as unknown.

The word "poor" or "fair" in answer to questions of present health of living members of the family must be explained, giving the reason for the impaired health. If the impairment be due to tuberculosis, note whether or not applicant is brought into close daily contact with the affected person.

The word "American" in answer to question of race is ambiguous, and will not be accepted.

In no case must an examination of the heart and lungs be made through more than one layer of light cloth. This applies to examination of women as well as men, and a third person present during an examination is prohibited.

Upon completion of an examination the examiner should in every instance review the report carefully to see that all

questions are properly and fully answered.

It is necessary to call attention to a habit, which I am sorry to say some physicians have, of answering questions in favor of the applicant without going through the form of putting the questions to the applicant, also of recording examinations of chest and urine when such examinations have not been made. This kind of work is dishonest in the extreme, and is a case of fraud practiced upon the company by the examiner.

I would also call attention to an error sometimes, though not often, made of trying to report too much. Trivial ailments need not be detailed unless they point to some more serious condition.

The recommendation of an applicant by the examiner does not preclude the possibility of a declination. The medical directors, through many years of experience and a large amount of recorded information, will often reject an applicant for reasons quite unapparent to the examiner.

If these few suggestions are borne in mind by doctors making examinations for life insurance (and there are few doctors who do not make examinations for one or more companies), their work will be greatly simplified. Attention to these few scattered details will obviate a large amount of correspondence between company and examiner, and give the company that confidence in the ability and honesty of the examiner which it should by all means have.

#### DUTY OF THE STATE TO THOSE SUFFERING FROM TUBERCULOSIS.\*

By R. E. CONNIFF, M. D., Sioux City, Iowa.

What is the duty of the state to those suffering from tuberculosis? This is a question often propounded, and often unsatisfactorily answered. I shall attempt

to answer this interrogatory briefly, from a practical point of view, putting the whole consideration of the care of consumptives on no higher plane than that of policy.

Individual effort and individual phil-

\*Read before the American Anti-Tuberculosis League, Atlanta, Ga., April 17, 1905.



anthropy will never accomplish what we all hope to see accomplished in the direction of prevention and cure. The management of the campaign against tuberculosis must be by the state, after a careful consideration of all the conditions to be met; and it must be wise, conservative and comprehensive.

That tuberculosis is a preventable and curable disease no longer admits of doubt. The consensus of opinion from every quarter accentuates this *fact*. It's prevalence depends on *two* and *only two* factors; the *bacillus, which is the seed* and a *vitality* (either local or general) *lower than normal, which is the soil*. Tuberculosis can thrive only where both conditions are present. It's rational control would then be directed against the promiscuous sowing of the seed, and the improvement of the soil, if we would make it's growth impossible.

That tuberculosis is a contagious and communicable disease is an admitted fact which, I think, needs no argument to establish; that it is preventable and curable, does not seem to be so generally understood.

To bring this properly before us, let us glance briefly at recent statistics. Carefully prepared and apparently reliable statistics show absolute cures in 15 to 50 per cent. of all cases treated; relative cures in about 30 per cent., and amelioration in 40 to 90 per cent. Post mortem evidence of the disease having been once present, and subsequently healed without having been discovered until death from other causes, is 20 to 40 per cent. Four thousand consecutive autopsies conducted by Birch-Hirshfeld show tubercular disease in 40 per cent.; while Turban tells us that patients treated in the early stage of consumption are relieved, if not entirely cured, in as high as 84 per cent. Trudeau, referring to his own cases treated in 1903, claims permanent

recovery in 31 per cent. of all cases treated, and 66 per cent. in incipient cases. Fanning estimates that 75 per cent. of cases seen early can be restored to lasting fitness for work; while 90 per cent. are able to survive indefinitely if careful of the rules of hygiene.

These practical results afford much encouragement and show conclusively what may be done with proper care. This care does not necessarily mean isolation of the individual, nor the establishment of expensive and elaborately equipped hospitals; nor does it imply a change of residence for the afflicted person. Report would seem to indicate that geographical position and climate have but little influence on the course of the disease. Patients treated in New England at or near sea level show quite as great improvement as those treated in like manner in the Adirondacks, or the higher altitudes of New Mexico. The great majority can be treated in their own homes, without expense to the state. The smaller number may be provided, at no great cost, with proper facilities for treatment, while at the same time, they are protecting others.

A better understanding of the nature of the disease has brought about a more hopeful condition of affairs. In place of despondency, and resignation to utter helplessness, hope and encouragement have come, and a disposition to do something prevails.

It will be admitted, I think without question, that consumption is very prevalent in every state of the union, and among all classes of our people. Careful observers tell us more deaths are due to consumption in the United States every year than are charged to all other infectious diseases combined; and yet the national government is doing little or nothing to check the spread of the disease, or to protect from infection our people already exposed, much less to save those who have,

through ignorance of the danger, contracted the disease, and are now suffering in consequence.

That this is a legitimate function of government I take to be a self-evident proposition. We as a nation are justly proud of the humane care bestowed upon our unfortunates. Our insane, our feeble minded, our dependents, our criminals, even our inebriates, are cared for in a humane way, and at an enormous cost, and the state is proud of the care given these people. And yet when all is said we must not forget this most important consideration. These people whose kindly care is prompted by sentiments of justice and humanity are not in any great degree a source of danger to those with whom they associate; while the average tuberculous person, uninstructed in personal hygiene, is a source of contagion and a menace to all with whom he comes in contact; even more than those with whom he comes in contact, for his excreta may become dried and infect individuals months and years afterward.

I can think of no method that may be proposed by the state for a more even distribution of material blessings than the establishment of institutions where decent and intelligent care may be given the sufferer from tuberculous disease, who is unable to provide the necessary means of curing himself, and at the same time protecting others without the thought that he is receiving something to which he is not justly entitled. This course seems to me the wisest and best policy on the part of the state, acting in and for its own best interests. Nor is this an Utopian dream, or evidence of bacillophobia on the part of its advocates, but rather a practical, sane, temperate, economic view of the situation as it exists in every state of the union.

Some one may suggest that this can be done in the home, or at the county poor

farm; but let us remember that tuberculosis is essentially a *house* disease, and the average poor farm is a hot bed of consumption; confinement there is too often the equivalent of a certificate of death from tuberculosis, bearing a date some months later. The infected dwelling is to-day the greatest factor to be considered in the prevention and cure of consumption. The consumptive himself is not the dangerous person he is believed by many to be. If he know how to properly care for himself, and have the facilities for doing so, there is but little danger of others contracting the disease by association with him. Isolation is therefore no longer thought necessary or even desirable. The burden of this thing should not be put on the individual whose misfortune is his only offense. We should treat this matter with calmness and judgment, taking into consideration the nature of the disease, and the manner in which it is propagated, and avoid hasty and hysterical conclusions. The risk in the open is comparatively small as compared with infected homes; particularly in those persons instructed in personal hygiene.

My own state, Iowa, has a population in round numbers, of 2,000,000 people. A conservative estimate, based on recent reports, would place the number of tuberculous persons in the state at about 6,000, a large proportion of whom are unable to work. These persons are cared for by friends, or by the county in which they live; and I take it what is true of Iowa, is practically true of every other state in the union.

Now, if as Fanning tells us, 75 per cent. of those persons can be restored to lasting fitness for work, by proper treatment, what an enormous saving may be effected to the state, in this item alone! Then again, if herds of cattle and hogs are fast becoming infected by association with tuberculous persons, as seems probable by

reports of the Bureau of Animal Industry, and in view of the recent findings of the British Commission, appointed by the Crown some three years ago, to investigate the relation of human and bovine tuberculosis, the advance reports of which leave little room to doubt the identity of the disease in the two species, the savings in this direction can hardly be estimated in an agricultural state like Iowa.

A closer study of existing conditions, particularly in the rural districts, by boards of health and physicians, must be had if incipient cases are discovered and brought under proper treatment; for a campaign against tuberculosis must be in the main preventive and educational.

It would seem to me a careful *inspection*, under state or national authority, of sanitary conditions might of itself be extremely helpful in the way of pointing out sources of danger, such as inadequate ventilation, improper drainage, lack of personal care, improper food, etc., as well as suggestions for early treatment, in limiting the spread of tuberculosis.

Tuberculous persons outside the hospitals must be given the same opportunities for cure as those within. And the state,

as a matter of protection, should look carefully after the interests of all the people.

State hospitals, or sanatoria, may be made the best or the worst institutions. Their construction and management is a matter which ought to receive careful attention. Our object should be, as someone has suggested, to make the money expended go as far as possible toward multiplying the opportunities for relief. This implies light and temporary structures rather than monuments of architecture. Inexpensive structures, affording protection in inclement weather. Proper sanitation, and hygienic care are the essentials. Common observation will convince us that this can be better obtained in sanatoria than in some homes.

What all the people want is instruction in the ways to prevent tuberculosis, and the opportunity to secure the means to cure when already infected. This I believe to be the duty of the state to supply. To labor to this end is the duty of every sanitarian. The responsibility is ours, and we cannot shift this responsibility. Indifference in this important matter is disloyalty to our people.

The *Denver Evening Post* contained the following expressive cartoon anent the editorial in our last number concerning the Rev. Dr. Houghton's address to the nurses of Oake's Home:



The surgeons of Wyoming certainly have a hard time meeting irregular competition. They should at least organize against such flagrant violation of the medical practice law and cutting down of fees as implied in the following from the *Wyoming Tribune*:

"W. J. Hennessy, the mail clerk who was injured in the collision at Granger on train No. 3, had a peculiar experience. When the train struck he was thrown against the mail rack and had his right shoulder dislocated. The rebound threw him against another rack, forcing the dislocated shoulder back into place."

# The Colorado Medical Journal

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[NOTE—As a precautionary measure the Editors of this department will remain *in cog*. All members of the profession are invited to send in items for publication addressed to Editor Department of Medical Wit and Humor, Colorado Medical Journal, 1756 Champa street, Denver.]

## EDITORIAL COMMENT

### THE PROSTITUTION OF A NOBLE MOVEMENT.

At the Louisiana Purchase Exposition in St. Louis last year, one of the buildings of not the least interest to vast numbers of the visitors was the Fraternal Building. After the close of the exposition, it was suggested that it would be an enduring monument to the benevolent fraternities if they would raise the money necessary to transport this building to a specially salubrious climate and make it the central building of a great fraternal sanitarium for consumptives. This suggestion met with the approval it deserved and the various fraternities united in the movement, which has been so far accomplished that the sanitarium is to be opened at Las Vegas, N. M., with the beginning of the new year.

That the fraternities have been entirely wise, however, in their selection of a Board of Managers may be questioned. The editor of the JOURNAL, not as an editor but as a physician, has been favored with two copies of a circular letter, which has evidently been widely distributed. That there may be no misunderstanding as to its purport, and no suspicion of garbling it is reproduced here in full.

The following officers and Board of Directors appear in the sanitarium stationery:

#### NATIONAL FRATERNAL SANITARIUM

FRATERNAL CITY, N. M.

(Six Miles West of Las Vegas)

Endorsed by National Fraternal Congress, Associated Fraternities of America, Missouri Fraternal Congress, American International Congress on Tuberculosis, Supreme, Grand and Subordinate Lodges of Fraternal Societies.

General Office—Chemical Bldg., St. Louis, Mo.

Officers—Wm. R. Eidson, President; Dr. H. A. Warner, First Vice President; Hon. W. A. Northcott, Second Vice President; Dr. W. H. Mayfield, Third Vice President; M. P. Moody, Sec'y Religious Department; Chas. F. Hatfield, General Secretary; August Schlafley, Treasurer.

Board of Managers—Mayor Rolla Wells, Dr. H. A. Warner, E. G. Lewis, Gen'l. E. Wilkerson, August Schlafley, Paul Brown, Lee W. Grant, Hon. W. A. Northcott, Dr. W. H. Mayfield, M. P. Moody, T. A. Huey, W. E. Farley, C. F. Hatfield, Wm. R. Eidson.

St. Louis, Mo., Nov. 18, 1905.

Wm. N. Beggs, M. D.,

Denver, Colo.:

My Dear Doctor:

The National Fraternal Sanitarium for Consumptives, located at Las Vegas, N. M., expects to open for the reception of patients suffering with tuberculosis January 1st, at which time they will be cared for at the actual cost of keeping.

We can only promise them pure air, water and sunshine, and we must look to the medical world for advice and assistance.

This movement has received more publicity through the press of this country than possibly any other enterprise of a similar nature ever started, with the result that several treatments have been presented for our consideration as possible cures for consumption.

Desiring to take advantage of every means possible to stamp out the "Great White Plague," we have given them all consideration and have sifted them down to one treatment from which we have received the most remarkable results during the past year.

It is for this reason that we come to you as a physician asking you to assist us in determining the advisability of putting this preparation in our Sanitarium.

This treatment, known as Lloyd's Specific, was discovered by Mr. J. Q. Lloyd, chemist and bacteriologist (who is president of the J. Q. Lloyd Chemical Company, 548 De Baliviere Avenue, St. Louis, Mo.) as the result of many years of investigation.

This preparation has never been advertised.

but it has been tried by several physicians in St. Louis, and while the results obtained here, during the past twelve months, have been remarkable, yet we would feel better satisfied if a few physicians would give it a fair test under different climatic conditions, and advise us the results obtained. This treatment can be used entirely ethical. (*Sic?*)

We have made arrangements with Mr. Lloyd whereby he will furnish two weeks' treatment free of charge, upon written request to his address above, for each patient that you have—and the more the better. All we ask is that we receive a report from you as to the results obtained.

We realize the majority of physicians are skeptical as to there being any successful treatment for consumption, but you cannot be more so than we were when we first commenced our investigations.

Awaiting, with much interest such report as you may be able to make, I am,

Yours fraternally,  
WM. R. EDSON, President.

To this we responded as follows:

"Denver, Colo., Nov. 25, 1905.

"Mr. J. Q. Lloyd, 548 De Baliviere Ave.,

"St. Louis, Mo.:

"Dear Sir: I am in receipt of a circular letter dated November 18th, issued by the National Fraternal Sanitarium with reference to your specific for tuberculosis. As this circular letter is practically an advertisement of your product, and an appeal to the recipients of the circular letter to make use of your specific in their practice, I will ask you to kindly send me literature and specific information as to its exact composition, and, if you desire, method of preparation. Of course, neither you nor the sanitarium management can expect reputable physicians to make any test of it unless they have a knowledge of what they are administering.

"The circular letter states: 'We have received that most remarkable results during the past year.' I should also be pleased to be favored with full literature concerning these results, and special information as to the individual physicians by whom these results have been obtained. Being pretty familiar with the personnel of the medical profession of St. Louis, this latter information will have some considerable influence in determining my course with reference to your preparation.

"Very truly yours,

WM. N. BEGGS."

In response to this letter, although no samples were requested, we received a three-ounce bottle of Lloyd's Specific No. 1, the text of the label of which is given herewith:

Lloyd's Specific. No. 1. The Specific Tuberculosis Treatment.

Formula—Each fluid ounce contains:

Terebenum .....	10 M.
Hydracetic .....	½ Gr.
Guaiacolvalerianacetate .....	20 Grs.
Caffeina-Citrata .....	20 Grs.
Acidum Nitricum .....	¼ Gr.
Acidum Chromicum .....	1 Gr.

Dose—¼ teaspoonful, to be increased or decreased according to physician's instructions.

Maximum Dose—Highest with safety, two teaspoonsful three times a day.

The above formula contains nothing that would be conducive to Cerebral or Cardiac Depression. Put up expressly for the physician's use, under whose advice and care it is to be taken.

Manufactured only by J. Q. Lloyd Chemical Co., St. Louis, Mo.

Note—Hydracetic must not be confounded with Hydrastis and Hydrastinin.

Guaiacolvalerianacetate is a combination of Guaiacol Carbonate, Guaiacol Ethyl, Valeric Acid and Acetic Acid.

Chromic Acid. After several years of study and labor I have been able to combine Chromic Acid as well as other Ic Acids, making a safe and sure germicide, which is not harmful and is very efficacious.—Judd Q. Lloyd.

Druggists Notice—Lloyd's Specific must not be heated and should not be removed from this bottle, as cork is sealed and wired in, otherwise would not stay in bottle. Keep in cool place. If you should remove label soak in cold water and always put "Shake Well" on bottle.

No attention has been paid to the second paragraph of our letter, which is what we expected.

Concerning the J. Q. Lloyd Chemical Company nothing need be said. There are a few grammatical peculiarities in the label and the letter of the president of the National Fraternal Sanitarium which would seem to indicate an identity of

origin of the two. So far as appears from the literature furnished, Lloyd's Specific may be regarded as a strictly ethical and perfectly legitimate pharmaceutical preparation. The manufacturer may be perfectly sincere in the belief that at last he has been the fortunate one to discover the so long sought specific for the so widespread and intractable disease. At least he has the testimonial of the National Fraternal Sanitarium that it produces "the most remarkable results." He is undoubtedly justified in placing it upon the market and promoting its sale by legitimate means.

We need not touch upon the question whether or not this preparation is actually a specific for tuberculosis. This may be left to the good judgment of the profession.

Now let us turn our attention to the officers and managers of the sanitarium. There is an ethics for sanitariums and their management—especially those supported by the public and maintained as a charity or as a semi-charity—as well as for physicians, lawyers, or laymen. The management of such an institution may determine what particular line of treatment may be employed either permanently or temporarily therein. Even though their judgment may be imperfect, fault may not be found with them for that. On the other hand, they may not, and retain a position of dignity and respect among their confreres, allow themselves to be made the advertising agency for, and permit themselves to exploit, any proprietary remedy whatever, no matter how legitimate it may be, either for gain or through complaisance. That the officers and managers of this institution, inaugurated and instituted under such unusually fortunate auspices, should have been so lacking in judgment as to permit themselves to make such a flagrant faux pas as this is a reflection, not only upon themselves, but also upon those who have se-

lected them. The only excuse which we can see for them is that they are still so young in their new functions that even the meconium has not had time to be formed. A plea in abeyance might be made for the lay members of the board of managers, but what shall we say for the physicians?

#### SENDING POOR CONSUMPTIVES WEST.

"The committee on the prevention of tuberculosis of the Charity organization of New York has just sent out a circular letter to 3,500 New York physicians, asking them not to send consumptives to Colorado, Arizona and California unless these consumptive patients have (1) physical ability to be self-supporting at employment already assured, at proper salary, in the West, or (2) \$250 at their disposal in addition to railroad fare.

"Commenting upon this fact, the Boston Transcript says editorially: 'This open letter should have immediate attention from physicians and laymen in our own city. If consumptives in semi-pauperized condition are being sent West to "soon find themselves without work, living in the poorest rooms and eating scantily of the cheapest food," as the committee's letter not only hints, but claims is being done in New York, the advice or efforts of interested parties here in the East are often meeting terrible results. We cannot believe that the Charity Organization society of New York would raise the question without the facts gathered from many different cases to justify their earnest plea for the retention of poor tuberculous patients in the East.

"We know the great yearning of most consumptives for the Western land that common report says is the great restorer of health. Our heart throbs for the sick patient who sees beyond the Eastern mountains and the central plains the chance to get again a grip on life. But if the alternative in many cases is, on the one hand, poverty and an overburdened charity in the West for the victims of the white plague, and, on the other hand, at home a less suitable climate but more efficient curative institutions, then must we with courage face the duty of giving the best, most adequate and constant treatment to our consumptives here at home, and if overcrowding comes now or later, we must spend our money and build until we have caught up with the need of provision for the stricken con-



sumptives. The New York letter has raised a most important question. The general public knows little in detail about the number of consumptives sent West, their financial condition and their subsequent history. Shall we not hear more, both from physicians and from the New York society?"

"There is much good sense in this comment, and the matter is one in which the West as well as the East is interested. For years Colorado has fed, clothed and cared for indigent persons sent here from the East, with barely sufficient means to reach here, many of them in the last stages of tuberculosis. The amount annually expended for charity in this city and in other cities and towns of the state has been greatly increased from this cause. No segregation in charity statistics has ever been made, however, which would throw light upon the number so assisted or the amount expended. The West has borne with patience and without much protest the burden thus imposed by the older and richer Eastern communities, but it has felt the injustice of such action none the less. The fact that Eastern physicians and the press are moving toward remedying the wrong will be appreciated generally throughout the West, and without doubt officials of the Charity organizations and public officials will gladly furnish all the detailed information in their power when the East asks for it.

"One statement made by the Transcript cannot be permitted to go unchallenged. It is a well understood act by the leading physicians of the country that there are no more efficient curative institutions for the treatment of tuberculosis than any one of three or four to be found within this city."

The foregoing editorial from the *Rocky Mountain News* presents fairly the opinion of the medical profession of the Rocky Mountain region. It is announced that \$30,000.00 have been subscribed for the use of the charity organization in Denver the coming year. It will all be expended, and the necessity felt for more. These sums, too, do not go, except in very small part, to supply the needs of what we may consider our own legitimate poor. The vastly greater portion must be expended on those who should not have been permitted to come here, who are not entitled to it through

any other condition than that they are unfortunate, poor.

The circular letter of the New York Charity Organization, above referred to, will give rise to some pertinent thoughts. For example, what financial condition of individuals or families should entitle them to consideration at the hands of charity organizations? The suggestion implied in their letter is rather startling. We are not accustomed to think that those who have been able to save as much as \$250.00 cash are to be considered poverty stricken. Or are we to understand that the New York Charity Organization is willing to aid those whose exchequer cannot boast that much by contributions of the amount missing? In such case we can look for a large increase in the already enormous immigration into that city.

Again, many, very many, of our indigent consumptives have come from New York and have been helped to come here by this very New York Charity Organization. Possibly, however, it intends to turn over a new leaf and make a New Year's resolution to, in the future, assist no paupers who have not at least \$250.00 at their disposal, to come to the Rocky Mountain region. Is this resolution to meet the fate of so many others made at the birth of the new year? Or how soon will it be before they send in to the railroad companies as many applications as heretofore for half fare tickets for people who have not the money to spare for full fares,—who have not, perhaps, one-fifth the amount mentioned to supply the wants of a family of six, or eight, or even ten members? Or will they even ask for such half fare charity tickets for those who have \$250.00 cash at their disposal?

Possibly, too, they will expect these patients to be treated by physicians on a charity basis.

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Rather an innovation is the submission to a grand jury of the question as to how

an infectious disease gets into a locality. Governor Blanchard, of Louisiana, has called upon the grand jury of Orleans parish to investigate and place the responsibility for the introduction of yellow fever into Louisiana. It is reported that the entire state board of health has resigned on account of his attitude.

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**THE NEW EDITORIAL MEMBER OF THE  
PUBLICATION COMMITTEE.**

James Milton Blaine, M. D., of Denver, the subject of our frontispiece this month, is of Scotch-Irish lineage, and a representative of two of the oldest families of Pennsylvania. His paternal grandfather, James Blaine, emigrated from the north of Ireland about 1775, and settled in Perry county, Pennsylvania, where the hamlet of Blaine is now located. In 1801 he crossed the mountains and established his home in Armstrong county, in Kittanning, Pennsylvania, where he died in 1815. His wife, Deborah, was also born in Ireland, but their marriage occurred in Pennsylvania. Their son, James Blaine, wedded Margaret Morrison, whose grandfather also came from Ireland, and thus on both paternal and maternal sides Dr. Blaine is of Irish lineage.

From the "History of the Jefferson Medical College" of Philadelphia we find much information of interest relating to Dr. Blaine. He was born in Armstrong county, Pennsylvania, September 2, 1855. He attended the common schools there until eighteen years of age, when he engaged in teaching in the public schools for three winters. During the summer months he was a student in a select school at Slate Lick, Penn., and completed courses in Latin and algebra in Jamestown Seminary, at Jamestown, Penn. He began studying medicine in April, 1878, and in October of that year entered Wooster University, at Cleveland, Ohio, where he remained for one term. In 1879 he

was enrolled as a student of Jefferson Medical College, Philadelphia, and was graduated on the 12th of March, 1881. He pursued three terms of study under the two years system, and when he had completed the work in Chemistry, Materia Medica and Physiology at the end of the second year, he devoted his extra time during the last term to the study of Dermatology under the direction of Dr. J. V. Shoemaker.

Dr. Blaine began the practice of medicine in western Pennsylvania, where he remained for eight years, spending the last three years of that period in Kittanning. Because of failing health, he afterward devoted four years to travel and recuperation and in the fall of 1893, in order to get in touch with the modern thought and improvement in his profession, he returned to Philadelphia, where he pursued special courses of study in the Philadelphia Polyclinic, and also under Dr. J. V. Shoemaker, at the Medico-Chirurgical Hospital. In January of 1894 he entered the New York Polyclinic, and continued there through the remainder of the winter. In 1894 he located for practice in Denver as a specialist in Dermatology, in which his success has been most pronounced. From 1894 until 1896 he was Lecturer on Dermatology and Clinical Professor in the University of Denver. He was Professor of Dermatology in the University of Colorado in 1896-7, and in the latter year became Professor of Dermatology and Venereal Diseases in the Gross Medical College of Denver, acting in that capacity until 1902, since which time he has been Professor of Dermatology and Venereal Diseases in the Denver and Gross Medical College. He is also Dermatologist to the County Hospital, St. Anthony's Hospital, Mercy Hospital, and the National Jewish Hospital for Consumptives; Consulting Physician to the State Industrial School, Florence Crittenden Home, State Home for

Dependent Children, and Denver Emergency Hospital.

Dr. Blaine is the inventor of the Comedo Expressor, which he manufactures for the use of himself and his students. He has written many valuable articles upon medical subjects, and has been widely quoted by the profession abroad. He is accounted to-day one of the most prominent representatives of his calling in Colorado, and during his four years service as Secretary of the State Society did much to aid the profession in maintaining a high standard of ethics. He belongs to the American Medical Association, the Colorado State Medical Society, the Denver County Medical Society, and the Denver Clinical and Pathological Society. In 1899 he served as Secretary of the Dermatological Section of the American Medical Association. His latest honors were of a literary nature, when he was elected editor of the journal of the State Society, *Colorado Medicine*. He is also editor of THE JOURNAL'S Department of Dermatology. It is safe to predict, from what has already come from his pen, that he will make the same success as a journalist that he has in his other endeavors. Socially he is connected with the Denver Lodge of Elks, and is never too busy to play Santa Claus for that noble organization of good fellows. The doctor is known as one of the tried-and-true sort among his friends, who love him for his sterling worth, as well as for the "enemies he hath made." He was orator at the memorial services in 1902 and his address on that occasion proved himself a platform speaker with few equals. He also delivered the memorial address at Central City in 1903, and at Laramie, Wyo., the present year. He has served in the position of esteemed lecturing knight of that organization, and a member of the general committee of the 1907 Elks convention, which meets in Denver next summer.

Dr. Blaine was married June 14, 1883, to Miss Ida May Weir, who died April 3, 1888. On the 2d of September, 1897, he married Mrs. Beatrice Janet Moore, who died December 14, 1898, and September 16, 1903, he married Miss Ida L. Green. His daughter, Ida May Blaine, was born March 27, 1888.

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We have heard of many ill assorted matches, but Denver has certainly been greatly and unusually afflicted, if the following taken from the *Denver Evening Post* of December 5 is any criterion by which we may judge:

#### "MARRIAGE LICENSES.

"Mary Elitch Long, one and one-half story residence, Vrain, between Thirty-eighth and Thirty-ninth; \$3,000.

"Austin Gamin, two one-story residences, Fillmore, between Second and Third; \$2,000.

"Abel Platts, one-story cement cottage, South Fifteenth street, between Evans and Asbury, \$1,000.

"Young B. and I. Coy, two-story double house, Pennsylvania, between First and Ellsworth; \$3,500.

"Mary E. Rice, one brick residence, South Pennsylvania, between Arkansas and Florida; \$1,000.

"Robert Steele, alterations to Steele block; \$9,000.

"J. F. Elliott, one-story two-house terrace, Williams, between Thirty-first and Thirty-second; \$2,000."

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#### THE DIET OF DISCONTENT.

Some men seem to live on a diet of discontent. Everything is wrong; nothing is as it should be. They are always in the dark. They even regret the sunshine, for fear it will fade something; they bemoan the rain for fear of the mud. If they would find less fault and make some effort to better matters they might at least lift themselves up out of the quag.—Four-Track News.

# PROGRESS OF MEDICAL SCIENCE

## DEPARTMENT OF CLIMATOLOGY:

F. G. BYLES, M. D.,  
Editor.

S. E. SOLLY, M. D.,  
Consulting Editor.

### CLIMATE OF THE PHILIPPINES.

The subject of climatic influences of the tropics on people from the temperate zones is one of great and growing importance, especially to citizens of the United States.

Our present position in the Philippines and our proposed occupancy of a portion of the Isthmus in the construction of the great Panama canal makes this subject one of vital importance to all Americans, and especially to those directing our national affairs. The present status of this subject is so well expressed by the editor of *American Medicine* in a recent issue that we feel justified in quoting verbatim his editorial.

"The climate of the Philippines has been highly praised by Dr. John R. McDill,<sup>1</sup> of Manila, who declares it to be an earthly Elysium for old people and children, and who also says that by observing a normal and moral life, healthy Americans can live there in good health and about as long as at home, and, moreover, can do as much good and hard work for three quarters of the year. We must confess to considerable bewilderment at such reports, coming, as they do, at the very time the War Department has concluded that three years is too long a tour of duty for its staff officers. Perhaps this is because it is not practicable to send them all to the cool Benguet highlands for a fourth of every year, which McDill seems to imply will solve the problem of continuous residence in the tropics. The large number of Americans who have broken down in health in the Philippines and have been compelled to return will probably resent the insinuation that the

reason is to be found in their immorality. The old men who have died as a result of their failure to find in the place an Elysium should turn in their graves. The Government is compelled to keep a large hospital in San Francisco for the reception of the continuous stream of invalids sent home, and it is hard to believe all this illness is avoidable. In view of the overwhelming evidence of the injurious effects of continuous residence in the tropics, it is a curious phenomenon that every now and then there should be a dissenting opinion. The stimulation experienced during the first few months will, no doubt, explain the encomiums of new arrivals, but we are at a loss to explain the occasional rosy reports of older residents. It is likely to be due to the fact that man always minimizes dangers to which he is accustomed. It is also natural to think lightly of dangers through which we have passed and survived, for we forget the majority who have perished. Indeed, the tropic amnesia, of which we hear so much, may prevent any remembrance of them and may particularly obliterate all recollection of the rosy-cheeked, healthy American child, which is said to be so rare in the tropics, unless it be a new arrival. Perhaps the essentials of Elysium are also forgotten. Before coming to a final judgment as to the Philippine climate, we should know something of its ultimate effect upon those who praise it."

We hope all members of the profession favorably located for the purpose will collect and report all data possible on this important subject.

<sup>1</sup>Journal of the American Medical Association, August 19, 1905.

DEPARTMENT OF RESPIRATORY AND CIRCULATORY DISEASES:

SALING SIMON, M. D.,  
Editor.

J. N. HALL, M. D.,  
F. E. WAXHAM, M. D.,  
Consulting Editors.

TRANS-MANUAL AUSCULTATIONS.

In the *Pennsylvania Medical Journal*, 1905, Dr. David Reisman speaks of trans-manual auscultation as a method to time heart murmurs. The method consists in placing the hand over the heart and using a modification of the phonendoscope for auscultation. He claims that he can readily distinguish presystolic from systolic murmurs, palpation and auscultation being performed simultaneously. He also proposes a method of palpation by laying the ulnar side of the palm in the interspaces of the ribs while the patient counts and offers this as an addition to our present method of palpation.

TACHYCARDIA.

G. L. Davidson, M. D., in the *St. Louis Medical Review* for September 9, reports an interesting case of tachycardia in a young man of 19, due to indigestion. He describes a method by which he suddenly brought the patient's pulse from 200 to 70 per minute. This consisted in requiring the patient to take a deep inspiration and, while the lungs were thus expanded, suddenly bringing the patient's arms from above his head to the sides of his chest. This causes a quick and violent expiration. He attributed the patient's tachycardia to temporary paralysis of the cardiac branches of the pneumogastric nerve, thus suspending their inhibitory action. This was brought about by pressure of a dilated stomach. This view appears cor-

rect, since mechanical methods as the one above described seldom failed to relieve him, while medicinal treatment had little or no effect.

IMPROVED METHOD OF THORACENTESIS.

In the *Journal of the Michigan State Medical Society* W. M. Donald and R. E. Mercer, in an article entitled "A New Method for the Withdrawal of Pleural Effusions" describe an apparatus which, consisting of two bottles working on the syphon principle, withdraws the effusion from the chest and replaces it by sterilized air. They claim as advantages for their operation over previous methods:

1. That all fluid can be withdrawn at once.
2. There is no pain.
3. The lung is splinted by a cushion of sterilized air and expands slowly.
4. The air pressure prevents the leaking of fluid through the cells back into the pleural cavity and the reaccumulation of the fluid there.
5. The apparatus can be improvised by any physician or can be manufactured at a very low figure by any instrument manufacturer.
6. It is believed to be especially adapted to cases of old effusion where the withdrawal has been postponed to a great length of time and cases where there is tendency towards the reaccumulation of the fluid.

DEPARTMENT OF DIGESTIVE DISEASES:

A. E. ENGZELIUS, M. D.,  
Editor.

EPILEPSY AND GASTRO-INTESTINAL DISTURBANCE.

Two cases of epilepsy, the result of gastro-intestinal disturbance, are reported

by Murdock (*Medical News*, July 15, 1905). The autotoxemia resulted in one case from disturbance in the stomach, and took the form of *petit mal*, in the other

case it was associated with intestinal disorder, taking the form of *grand mal*. Both cases were promptly cured by proper diet, iron and arsenic, gastric lavage, and colon flushings.

In regard to diet in epilepsy the writer quotes Hamilton, who says that an excessive nitrogenous diet is apt to aggravate the disease. It has been Murdock's experience "that patients with achylia gastrica do better on a diet from which red meats have been excluded, while in hyperchlorhydria the reverse obtains."

#### MEDICAL TREATMENT OF GALLSTONES.

In *Northwest Medicine*, July, 1905, Richardson devotes a brief article to the possibility of dissolving gallstones in situ. It has been ascertained that the presence of gallstones is accompanied by a marked quantitative reduction in the bile acids which hold the cholesterine in solution. This fact leads to the inference that if there is a sufficient quantity of glycocholate in the bile, the cholesterine will be held in solution and gallstones will not be formed. Citing some experiments upon dogs whereby the above deduction was verified, the writer thinks it evident "that by the administration of glycocholate of soda it must be possible to dissolve gallstones in the bladder, and even when cholecystitis is present glycocholate of soda is indicated not only as a prophylactic

but as a solvent for stones already present, and that in those cases only in which there is occlusion of the gallduct is surgical interference permissible."

#### RECTAL ALIMENTATION.

After an interesting review of the research work in the field of rectal alimentation, Porter (*American Medicine*, July 1, 1905) arrives at the conclusion that the digestive power of the large intestine is unequal to the task of filling the nutritive requirements of the system and that rectal alimentation is at best a very poor substitute for the natural method of feeding. The fact that the system when expending very little energy can maintain life for a long period of time on a very limited supply of food has unquestionably led to the oft-expressed belief that rectal alimentation is a valuable method of feeding. To quote: "It does in a measure relieve the pangs of thirst and hunger that of necessity follow the slow progress of starvation which occurs when the stomach and small intestines are thrown out of commission. So far as my personal experience has gone, rectal alimentation has proven most unsatisfactory. I have tried all forms of substances, predigested and otherwise, for rectal alimentation, with but one result, namely, progressive starvation without the more intensely distressing symptoms."

#### DEPARTMENT OF ALIENISM AND NEUROLOGY:

B. OETTINGER, M. D.,  
G. A. MOLEEN, M. D.,  
Editors.

H. T. PERSHING, M. D.,  
J. E. COURTNEY, M. D.,  
HUBERT WORK, M. D.,  
Consulting Editors.

#### EXTENT OF CORTICAL MOTOR AREA.

Recent experimental work has shown that the motor region of the cerebral cortex occupies narrower limits than has been heretofore recognized. Frazier (*University of Penn. Med. Bulletin*, July and August, 1905) publishes results of 138

observations following faradic stimulation of the Rolandic area in twenty-five cases. These observations confirm the work of Gruenbaum and Sherrington and show that the motor region in men is situated only in front of the fissure of Rolando; viz., in the ascending frontal con-

volution, with extensions anteriorly into the middle and inferior frontal convolutions. The anterior extensions contain the centers for the movements of the head and eyes.

B. O.

#### SCIATIC PERINEURITIS.

W. M. Leszynsky (*Medical Record*, Vol. 68, No. 11) writes concerning the diagnosis of sciatic perineuritis that it is based upon the presence of pain or tenderness in pressure over the nerve trunk, which sometimes radiates to the foot or toes; pain elicited or increased by passive extension of the leg upon the thigh while the thigh is held at a right angle with the pelvis; and diminution or loss of Achilles reflex. The absence of these symptoms leads at once to the assumption (which in nearly every case is confirmed by further examination) of either a very mild degree of perineuritis or a symptomatic or reflected pain resulting from intrapelvic disease.

Degenerative neuritis, which is very rare and usually due to injury from growths directly involving the nerve, is attended by unmistakable phenomena in addition to pain, such as paresis or paralysis, atrophy, loss of Achilles reflex, anaesthesia, vasomotor disturbances, and loss of faradic irritability in the distribution of the sciatic nerve. Acute rheumatic inflammation of the hip joint is not so likely to be mistaken for sciatica as the more chronic forms of coxitis, such as tubercular arthritis. Inflammatory affections of the sacro-iliac synchondrosis are commonly mistaken for sciatica. The same may be said of osteo-arthritis of the lumbosacral region, the pain being caused by involvement of the nerve roots in the inflammatory exudation along the vertebrae. Pain in the course of one or both sciatic nerves may be an early and premonitory symptom of tumor of the spinal cord. Hence in all cases of sciatica of long

standing a search should be made for possible neoplasms. When a growth or meningitic process involves the cauda equina, the pain is more likely to affect both sides. Sciatic neuritis must also be distinguished from pains of tabes, in which case they are often bilateral, periodical, momentary in duration, affecting small spots in different parts of the limbs, and associated with other symptoms of this spinal affection. At times, from overwork of the healthy extremity in unilateral sciatica, similar pain is developed in the other side. The uninitiated may be readily deceived in such a case, for it also happens that one side becomes affected shortly after the other in beginning disease of the cord and its meninges. The risk of accepting the patient's own diagnosis must be quite evident, yet this is done only too frequently. The location of pain is usually established by the patient's statements, which must be carefully analyzed. In view of the multitudinous conditions that may occasion sciatic pain, the discovery of the cause is often beset with difficulty, and its accurate determination at times requires the co-operation of the neurologist, gynecologist and surgeon.

B. O.

#### BRACHIAL BIRTH PALSY.

L. P. Clark, A. S. Taylor and T. P. Prout (*Am. Jour. Med. Sc.*, Oct., 1905, pp. 670-707) in an elaborate study of arm paralysis due to compression or laceration during forced labors report eight operable cases. There were two deaths, one from shock and one from urinary suppression, and five recoveries with functional improvement in all. The age of the cases was from eight months to eleven years. The operation included exposure of the brachial plexus, lateral suture of the nerve ends with silk and wrapping the anastomosis with Cargile membrane (to prevent connective tissue growth). The limb was then immobilized.

This research embodies new facts in the etiology and pathology of the laceration-type of birth-palsy, the development of the relation thereto of the symptomatology, and the establishment of a scientific basis for treatment.

The conclusions, in brief, are as follows:

1. Cause is tension on the nerve trunk which first ruptures the sheath and then the fibres.

2. The persistence of the palsy is explained by the damage found in the nerve trunks.

3. The nature of the lesion in all cases demands excision of the damaged areas and the suture of the divided ends as soon as it is proven that spontaneous repair will not take place.

4. In all cases, such treatment as will prevent contractures and deformities and maintain muscle-tone should be systematically used until either spontaneous recovery occurs or operation is done (and obviously after operation). Traumatic neuritis is a contraindication.

5. The time for such operative measure is not fixed; a year is considered a reasonable delay.

6. Sufficient time has not elapsed for final results to have appeared.

G. A. M.

#### MOTOR APHASIA WITHOUT AGRAPHIA.

Byrom Bramwell (*Lancet*, Oct. 7, 1905) reports a case which, in view of the doubt as to the course of the graphic or writing speech centre fibres and the opinion held by some authorities that these fibres pass through the motor speech centre, is of exceptional interest.

The patient, 27 years of age, during an attack of influenza, was suddenly seized with head symptoms (not becoming unconscious), paralysis, particularly of the lower face muscles of the right side, and

weakness of the arm and leg of the same side; with no ocular paralysis, no nystagmus and with normal discs. There was a slight ankle clonus and the Babinski phenomenon was present on the same side. The patient was right handed. Analgesia and anesthesia were present on the right side of the face only. There was slight deafness and smell and taste were decidedly impaired on the same side. There was total motor aphasia, though patient was able to write from memory, copy, or dictation. A mitral stenosis is noted.

The author is positive of a sudden brain lesion, and is inclined to consider the diagnosis as embolism of the middle cerebral artery, and the lesion cortical and subcortical.

G. A. M.

#### THE NEGATIVE VALUE OF KERNIG'S SIGN.

R. N. Wilson (*Am. Jour. Med. Sci.*, Vol. CXXX, No. 2, pp. 306-311) places on record his observations to show that while this sign has been found in cases of undoubted meningitis, it may also be demonstrated in conditions other than and uncomplicated by meningitis.

In all, observations were made upon 73 adults and 47 children, 10 of the former and 17 of the latter being in apparent health in which the sign was found. It was found to be present in 29 of the adults suffering from 15 various conditions other than and not including meningitis, and the ages of these varied from 16 to 90. the greatest number occurring in the fourth decennium.

Of the children, but three (rickets. Pott's disease and gonorrhoeal vaginitis) presented the sign.

The author cites Miller's series, in which 23.6 per cent. as compared with his own with 26.8 per cent. and also those of Clark—three cases of meningitis, one epidemic and two tubercular—in which the sign was absent. He concludes that.



while very valuable when associated with other signs, it is by no means a positive

indication of either meningeal, brain, or cord involvement.

G. A. M.

#### DEPARTMENT OF LIFE INSURANCE:

S. T. McDERMITH, M. D.,  
*Editor.*

JOHN ELSNER, M. D.,  
P. J. McHUGH, M. D.,  
*Consulting Editors.*

#### PERSONAL HISTORY.

(Continued from the November Number.)

##### *Asthma.*

A history of this affection in recent years calls for rejection or postponement. If in the more remote past, say six, eight, or more years, and in the interval the applicant has been free from effects of it, and is at present free from complications growing out of it, then approval is in order. It devolves on the examiner, though, to make these points clear, and to discriminate between true chest asthma and hay asthma. Complications or results to be looked for are such as emphysema, bronchial dilatation, hypertrophy and dilatation of the right side of the heart.

##### *Bronchitis.*

A history of one or a few brief acute attacks—colds with a little bronchial involvement—has but little significance, and is very different (as relates to a life risk) from a history of chronic bronchitis, especially when the latter is traceable to, or complicated by, a constitutional or organic disease. These, together with cases that show a marked tendency to recurrence, are the ones that affect the rating. The examiner's discrimination is here called into play, and his descriptive notation demanded.

##### *Discharges from the Ear.*

The question pertaining to this usually has this verbiage rather than "otitis," as it is better understood by the applicant. A chronic otitis media with either constant or occasional suppuration is to the cerebral meninges what a diseased appendix

is to the peritoneum—a more or less constant menace to life. Hence it is that a history of suppurative otitis media may assume quite a degree of significance. If the attack of middle ear disease be in the remote past; if there has been no discharge in recent years; if the subject is free from ear pain at any season, or after exposure to damp, cold, or drafts; in fact, if symptoms at the present and for several years last past are absent, then it need not be regarded as a material factor. If, however, there be any discharge present, or a history of recent or recurrent discharge, or of unoperated and uncured mastoid involvement, then the examiner is dealing with a dubious case. Such cases usually call for either rejection or postponement.

Partial deafness due (as it usually is) to otitis media constitutes some impairment of the risk, chiefly by imposing more than ordinary hazard to accidental violence, but such extra risk, unless the deafness approaches the complete, is usually assumed by the insurer. So it is that an examiner should not pass over lightly a history of suppurative otitis media, but give a brief clinical history, including point of time, duration, degree, and results of the process.

##### *Epilepsy.*

If at present existing, or a history is given of it in late years, rejection is imperative. This refers to true epilepsy. A history of petit mal or of irregular epileptoid movements clearly tracable to a known cause, such as deranged alimentary function with concomitant autoinfection, has far less significance, and, in the absence of recent or frequent seizures, need

not stand in the way of acceptance, at least on some terms or for some amount.

### *Fistula.*

In case of fistula in ano, past or present, the examiner needs to inquire minutely, and may have to examine to determine the nature of the rectal complaint. The latter may prove to be only an inflamed hemorrhoid or anal fissure. If the history of the ailment be remote, with

freedom from annoyance in the interval, implying proper cure, and if the applicant is free from all other suspicion of tuberculosis, is physically sound and with good physique, he is insurable, but if the fistula is present, or a recent history is elicited, he is to be regarded with disfavor as an insurance risk, more especially so if his appearance or history presents any of the other earmarks, personal or ancestral, of tuberculosis.

### DEPARTMENT OF GENERAL SURGERY:

F. GREGORY CONNELL, M. D.,  
O. M. SHERE, M. D.,  
*Editors.*

LEONARD FREEMAN, M. D.,  
E. J. A. ROGERS, M. D.,  
*Consulting Editors.*

### THE SURGICAL ASPECT OF GASTRIC ULCER.

#### *Hematemesis from Gastric Ulcer.*

W. Gilman Thompson, M. D., presents a paper on "Hematemesis from Gastric Ulcer, Notes on Over 200 Cases," in the *Am. Jour. Med. Sciences* for September, 1905. His inquiry was undertaken with a view of formulating the indications for operation in cases of gastric ulcer.

Under medical treatment, 111 cases were "cured," 19 cases were improved, 3 cases were unimproved, 41 cases died.

Among the deaths are included over a dozen due not entirely to the ulcer; 11 were due to immediate results of the bleeding.

Twenty cases were operated upon, of which 14 died and 6 were discharged as cured. Seven of these 14 deaths can be considered as having no real bearing on the operative treatment of gastric ulcer.

Among the 20 operated cases the medical diagnosis was wrong five times.

Success after operation may be anticipated in cases with cicatrices, stenosis, and adhesions chiefly, in which gastro-enterostomy is done between, rather than during, attacks of hemorrhage. Operation can be rarely relied upon to cure active bleeding.

In two of Thompson's private cases, the operation consisted of simply breaking up adhesions at the base of an ulcer, the stomach was not opened. This was done, not from choice, but from necessity, because of the condition of the patients. One, now five years after operation, is still in perfect health.

It is sometimes difficult to diagnose the exact condition between hemorrhage from a circumscribed ulcer, which may be cured by operation, and from a generally congested mucosa, which may not be so cured.

Thompson does not accept the classification into acute and chronic ulcers based upon hematemesis, that has been advocated by Moynihan and others.

It has been impossible for him to trace the after-history of his hospital cases, but, instead, he has reviewed the past histories of patients admitted to the hospitals, and concludes that a complete or permanent cure is comparatively rare.

The majority of gastric ulcers occur among the servant girl and seamstress class. Why this is he does not know. In Bellevue Hospital, where alcoholic gastritis, gastric carcinoma, syphilis, arteriosclerosis, privation and starvation, are common, gastric ulcer is rare.

As to stomach analysis as an aid to diagnosis, in 150 cases lately studied by Dr. William Armstrong, he has not once been able to make a diagnosis of gastric ulcer.

F. G. C.

### *Hemorrhage in Multiple Gastric Ulcer.*

Lee, in the *Am. Jour. Med. Science*, July, 1905, reports a case of multiple gastric ulcer, in which the operation was performed for acute hemorrhage, following a history of "indigestion." Operation revealed a stomach full of blood, with a number of petechial spots on the posterior surface.

After incision and emptying of the stomach many ulcers from the size of a goose quill to that of a quarter of a dollar were found at the pyloric end of the stomach. The larger ones extended through all coats to the peritoneum. There was neither peritonitis nor adhesions. The larger ulcers were ligated from the lumen, and then reinforced by sero-serous sutures from the outside; small ulcers caused bleeding spontaneously.

Gastro-enterostomy was not done because of the condition of the patient.

One year after the operation the patient was in perfect health.

The same author mentions another case of gastric ulcer with hemorrhage upon whom no operation was done and the patient died after two days of hematemesis.

F. G. C.

### *Medical and Surgical Treatment of Gastric Ulcer.*

Beverly Robinson, in the *New York and Phila. Med. Jour.*, June 3, 1905, considers this subject. He says that if hemorrhage is not arrested by means of local and medicinal agents, we must consider the propriety of a surgical operation.

Partial gastrectomy, or gastro-enteros-

tomy, are the operations usually employed. Of the former he states that the mortality is very high, and that after the second recurrence of symptoms is not rare.

Mention is made of Friedenwald's five cases of dilatation of the stomach, three of which were caused by ulcer that were operated upon by Finney's method of pyloroplasty, in all of which the gastric secretion was much improved. As a rule examination of stomach contents have not been made after operation.

In defense of medical treatment he says that under careful and judicious treatment gastric ulcer will rarely reach the stage where an operation is imperative; that even a very profuse initial hemorrhage may not be repeated and, if it is, it may be of much less severity.

In those cases where the stomach is, as it were, "weeping blood," nothing more can be done than a gastro-enterostomy, and this operation is, as we know, of uncertain value in such a condition.

In discussing the "Medical Treatment of Gastric Ulcer" before the American Gastro-enterological Association (*Amer. Jour. Med. Sci.*, December, 1904), Lambert concludes his article with the statement: "The statistical facts of these few cases do not allow any particular generalization, except to emphatically point out the fact that surgical procedure offers, in certain cases, the only road to recovery."

Before the same association (*Am. Jour. Med. Sci.*, Dec. 1904) Blake discusses the surgical treatment of gastric ulcer. He reports five personal cases of operation for hemorrhage with two deaths. His opinion is that a single large hemorrhage without previous symptoms referable to ulcer should not be operated upon, but when there have been antecedent symptoms operation should be at once performed. In no case should the patient be allowed to drift into a condition of pro-

found anaemia. Cases suffering from recurrent hemorrhage, whether small or large, should be operated upon.

In the *N. Y. and Phila. Med. Jour.*, March 25, 1905, Connell considers the "Indications for Treatment of Gastric Hemorrhage." In chronic hemorrhages, after medical treatment has failed, operation is indicated. After acute symptomatic hemorrhage, e. g., bleeding following a history of ulcer, operation is indicated.

In acute non-symptomatic hematemesis, after a single bleeding palliative treatment should be instituted, but after repeated hemorrhages operation is indicated.

In *American Medicine*, April 15, 1905, under the title "The Radical Treatment of Gastric Hemorrhage, with a Review of a Personal Case and 99 Collected from the Literature," Connell classifies the radical or operative treatment of gastric hemorrhage into:

(a) *Direct*—Excision of ulcer, partial gastrectomy or pylorotomy, ligation of the principal artery, cauterization or curettement of the bleeding point, ligation of the mucous membrane en masse, ligation of all coats.

(b) *Indirect*—Gastro-enterostomy, pyloroplasty, gastrotomy.

Of these various methods, unless distinctly contra-indicated, the direct method should be preferred. The indirect methods are indicated only when the direct can not be carried out, and sometimes as a supplementary operation after direct procedure.

Of the direct methods, the choice will lie between ligation, excision, and pylorotomy. Of the indirect methods, gastro-enterostomy will be the choice.

This rather extensive literature upon the surgical side of what until very recently has been considered a medical condition shows the importance of radical methods of treatment.

F. G. C.

#### ARTHROTOMY FOR OLD DISLOCATIONS OF SHOULDER.

E. Wyllys Andrews, M. D., Chicago, in *Surgery, Gynecology, and Obstetrics*, November, 1905, in an article entitled "A New Method of Arthrotomy for Old Dislocations of the Shoulder, Based on Experience in the Radical Breast Removal," reviews about fifty cases of hemorrhage, most of them fatal, that have occurred, during the "bloodless" reduction of old shoulder dislocations. He says the majority of cases of ancient shoulder dislocation will fail of reduction by safe bloodless methods, and presents the choice of three courses of management—leaving unreduced; resecting the joint or the head of the humerus; and arthrotomy, or reduction by cutting operation.

The second is the most commonly used, but the third is the more ideal, and, with the extensive incision advocated by Andrews, will undoubtedly come into more general use.

The steps of the arthrotomy are as follows:

1. Incision from clavicle downward across front of shoulder into axilla. "Never trust a short incision here."
2. Section of the pectoralis major near its insertion, exposing the plexus and vein.
3. Separation and retraction of the vessels and nerves.
4. Reduction of the dislocation by manipulation of the forearm by a competent assistant.
5. Unite muscle by the Harris tendon-suture method. Suture skin and drain.

Andrews conclusions are:

1. It must be considered established that great force is never justifiable in the reduction of old shoulder dislocations.
2. On account of pain and pressure symptoms on the brachial plexus few cases can be left unreduced.
3. Resection is more satisfactory, but not ideal or wholly safe.

4. Arthrotomy by the old incision is tedious, and never has been widely practiced, but has shown good results.

5. Arthrotomy by the author's method is simplified and made quicker, as well as safer. It would possibly be as safe as resection and much more ideal in results.

F. G. C.

#### "SPRAINS" OF THE KNEE.

Flint reports five cases of "Chronic Knees" under the title "Contusion and Laceration of the Mucous and Alar Ligaments and Synovial Fringes of the Knee Joint" in the *Annals of Surgery* of September, 1905.

Properly, these are not ligaments but folds of the synovial membrane containing a varying amount of fat. Their relation to the margin of the anterior articular surface of both condyles and to the patella exposes them to injury in any accident affecting the anterior part of the joint.

Very splendid illustrations explain the position and the character of these ligaments.

In his four cases, selected because of recent injury, operation was done for exploratory purposes. An absolute diagnosis was not possible, but it was highly probable that some lesion would be found, a supposition justified at the operation. The subjective symptoms, pain and limitation of function were common to all cases, and were relieved after operation. The objective signs were effusion, limitation of motion, and crepitus in one case, all of which were improved. In one case unsuspected tuberculosis was discovered.

Every traumatic knee, showing localized tenderness with effusion into the joint, should be aspirated if there is not great improvement at the end of one week. If the condition is hemarthrosis a small incision should be made and the joint washed out. Fluid remaining in the

joint too long causes trouble by stretching the ligaments, and so leaving the joint lax, also by acting as the cause of floating bodies.

In conclusion, he states that should there be, after injury to a knee, local pain, effusion into the joint, local swelling, with or without other subjective and objective signs, and should, in spite of rational conservative care, these symptoms persist or reappear after cessation of treatment, then the knee should be opened while the seat of trouble can be recognized and before serious secondary changes have occurred.

F. G. C.

#### RECURRENT EFFUSION INTO THE KNEE JOINT.

Sir William Bennett, in an article in the *Lancet*, Jan. 7, 1905, analyses 750 cases of "Recurrent Effusion Into the Knee-joint After Injury." By recurrent effusion is meant an effusion which recurs after an interval or intervals during which the joints, so far as can be seen, have resumed their normal condition, leading the patient to consider themselves "quite well."

Five hundred and nine of these cases were entirely independent of any constitutional condition; in 428 there were very precise symptoms of internal derangement; 56 presented no symptoms other than mere recurrence of effusion without noticeable further injury; 21 were obvious instances of loose bodies in the joint; in four instances the symptoms accompanied genu valgum.

In the 241 cases influenced by constitutional conditions, the following conditions are enumerated according to their frequency: Osteo-arthritis, rheumatism and gout, syphilis, gonorrheal rheumatism, malaria, hemophilia, "quiet effusion in young people."

A vast amount of information is tabulated in this concise work.

F. G. C.

# TREATMENT OF CHRONIC COLITIS BY SURGICAL MEANS.

Professor Carl von Noorden, in his exhaustive monograph on chronic colitis, outlines a most thorough medical treatment to be used in this disease, and, from his statistics we discern that in about 30 per cent. of cases the treatment was unsuccessful. If so, a review of the surgical success attained in three out of four cases of chronic colitis reported by Willy Meyer (*Med. News*, Vol. 87, No. 9) may prove of interest to the internist as well as surgeon, in the fact that after the most acknowledged methods of medical treatment have proved ineffectual, the patient may still look forward to a cure at the hands of the surgeon.

There are two methods for the choice of the surgeon. The first is temporary exclusion of the diseased part of the intestinal tract by establishing an artificial cœcal anus. This prevents absolutely all contents of the intestinal tract from coming into contact with the diseased mucous surface and at the same time permits of the use of this artificial stoma to flush the colon. The second is cœcostomy or appendicostomy, that is, establishing a water tight, or at least but slightly leaking, entrance into the very beginning of the large intestine for the sake of irrigation only, allowing the intestinal contents to run their usual course. The latter is, beyond doubt, the operation of choice in all cases of obstinate chronic colitis. It is simple, safe, and effective and the same is true of the after treatment.

The technique of the operation is to stitch the place where the appendix enters the cœcum into the upper angle of the wound in the parietal peritoneum and to allow the appendix to pass through the abdominal layers in an oblique direction so as to emerge in the lower angle of the skin wound. After proper protection, the top of the appendix is cut off and a bougie

introduced, which seems to have to overcome a few slight strictures. Two small strips of iodoform gauze are pushed along side of the appendix through the wound in the fascia. The lip is closed temporarily with a bow-knot of catgut so as to avoid soiling of the wound. Twenty-four hours later the two small strips of iodoform gauze, together with the bow-knot, are removed. A small Nelaton catheter then passes with comparative ease and is at once used for irrigation, after which the tube is plugged and left in place.

The after treatment consists of regular daily flushing of the large intestine through this tube. Beginning with a 1.10,000 silver nitrate solution, followed by saline, the silver solution is gradually increased, and this treatment is continued until the condition subsides.

It is useless to say that the above outlined technique is only general and each individual case would demand some variation, but the facts presented in the subsequent history of the patients so treated point to satisfactory results. They further show the excellence of Weir's idea of utilizing the appendix for this purpose, disproving the fear entertained by many that irrigation through a small tube would be unsatisfactory.

In view of the obstinacy of ulcerative colitis in its various forms and its tendency to recurrence, too much stress cannot be laid upon the advisability of keeping open the communication with the caput coli for a considerable length of time, and of insisting upon a properly selected diet in conjunction with rational internal medication.

O. M. S.

## THE RELATIONSHIP BETWEEN COLITIS AND APPENDICITIS FROM A SURGICAL POINT OF VIEW.

Lockwood (*Br. Med. Jour.*, 1905, p. 466) says that any form of colitis may

be associated with appendicitis and that it is of the very highest importance that we should try to learn their relations to each other. Undoubtedly appendicitis can cause colitis and the surgeon can readily see in many appendectomys the inflamed ileum, cœcum, and the ascending colon. In addition there is tenderness along the course of the right colon and rigidity of the abdominal wall. Mucus, or mucus tinged with blood, in the stools has been associated, showing that inflammation on the outside of the colon must have involved the mucous coat. In other words the relationship between mucous colitis and appendicitis is a mere question of extension by proximity, facilitated, perhaps, by identity of vascular supply. In cases of this kind the bowels soon recover when the appendicitis has ceased; the appendicitis is the dominant note.

Colitis may be the prominent feature to such an extent that the appendicitis may be obscured and overlooked.

Two cases are referred to of appendicitis with left-sided pain, but with absence of pain and tenderness over the appendix. The cause of the left-sided pain was clearly colitis. In both the inflamed appendix was hidden behind the right colon, which might have afforded some sort of protection to it. The writer says that while he does not know that appendicitis can cause the muco-membranous form of colitis, he does know that muco-membranous colitis can cause appendicitis. In the last case referred to in his article, post-mortem examination showed the whole depth of the mucosa ulcerated away, so that no trace of the tubular glands remained. The submucous, muscular, and peritoneal coats were much inflamed, with dilatation of their blood vessels and lymphatics. There had been no reason to suspect that the appendix had suffered, but microscopically it was ulcerated exactly the same as the intestines.

O. M. S.

#### DEPARTMENT OF OTOTOLOGY:

WM. C. BANE, M. D.,  
*Editor.*

#### EAR COMPLICATIONS IN DIPHTHERIA, SCARLATINA, AND MEASLES.

John H. McCollom, M. D., Boston (*Laryngoscope*, Sept., 1905), in an excellent article deals with nasal as well as aural complications. I have selected a part of that bearing on the ear because of its importance to the practitioner.

Disease of the middle ear frequently occurs in the course of an attack of diphtheria. Irrigation of the nose in diphtheria is a very important factor in increasing the prevalence of otitis media. Some few years ago it was the author's custom to irrigate the nose when there was a profuse discharge, but he found that he was having altogether too many instances of inflammation of the middle ear.

Mastoiditis requiring operative interference is somewhat infrequent in diphtheria, but it does occur. When there is a profuse discharge from the ear, even if there is no tenderness over the mastoid region, it seems that, from the standpoint of the general practitioner, operative interference is advisable.

The influence of scarlet fever in the causation of otitis media is very great. At the South Department of the Boston City Hospital, in 5,000 cases of scarlet fever the percentage of middle ear trouble was 18. This condition may appear as early as the fourth day of the disease or may be delayed until the fortieth day. When there are severe throat symptoms, the rate of involvement of the middle ear may be as high as 50 per cent. The septic

type of scarlet fever, characterized by a profuse nasal discharge and marked anginose symptoms, is almost always complicated with otitis media. When the trouble with the middle ear appears early in the course of an attack of scarlet fever of a severe type, the temperature does not seem to be specially influenced. An attack of otitis media occurring late in the course of the disease or during the convalescent stage is always accompanied by a sharp rise in temperature and severe pain in the ear.

Mastoiditis in scarlet fever is sometimes, although rarely, subsequent to otitis media. Of 5,000 cases of scarlet fever at the South Department there was inflammation of the mastoid cells in about .08 per cent. An early operation was advised in each case, and the results were satisfactory, no deaths having occurred from the operation. In some instances where there was no distinct mastoid tenderness but a slight unexplained rise in temperature and a profuse aural discharge, opening of the mastoid cells was earnestly advised. In every case where the operation was performed, where the conditions were such as have just been described, the cessation of discharge and the improvement in the condition of the patient was very marked.

Some physicians have been inclined to postpone operative interference in mastoiditis in scarlet fever on the ground that there was danger of sepsis if the operation was performed in a scarlet fever ward. Others have been inclined to postpone operation until the process of desquamation was completed. So far as the author's experience goes, if there is a profuse discharge from the ear, if there is marked mastoid tenderness, there is no reason for postponing the operation. It has been the experience at the South Department that although the symptoms referable to the mastoid region were somewhat vague and indefinite, if there was a

profuse discharge from the ear the condition of the mastoid cells and the adjacent structures was much more serious than would have been expected from the symptoms. In no instance has death been caused by the operation, but in each and every case there has been marked improvement in the condition of the patient immediately after the operation.

The result of the experience at the South Department has been that the proportion of middle ear trouble and subsequent mastoiditis is more frequent during an attack of measles than during an attack of scarlet fever. Downie, of 501 cases of inflammation of the middle ear treated in the Children's Hospital in Glasgow, gives the percentage of middle ear involvement following measles as 26.1. At the South Department the percentage of otitis media of greater or less severity in 1,000 cases of measles was 24. In the mixed cases of scarlet fever and diphtheria the percentage was somewhat higher. Mastoiditis occurred also more frequently in measles than in scarlet fever.

The benefits of early operation in mastoiditis are as great in measles as in scarlet fever. The history of the following case is an apt illustration of this statement:

F. L., a man 28 years of age, was admitted to the South Department on April 5, 1904, with a moderately severe attack of measles. On the 11th he complained of some pain in his ear. Examination showed a large bleb on the posterior half of the drumhead. Incision of the drumhead was done with relief of the pain. There was no tenderness over the region of the mastoid, but there was a very profuse discharge from the ear. Up to the 25th of the month the discharge increased in quantity to a very considerable extent. There was no marked rise in temperature; at no time was there mastoid tenderness. In view of the fact that the discharge was so profuse, and in order to save the man's



hearing, mastoid operation was strenuously insisted upon, notwithstanding the objection of the patient. On the 25th the mastoid cells were opened by Dr. Borden. After making the incision and pushing back the periosteum, thin, greenish-yellow pus was seen extending through the cortex, which was very thin and easily removed. The entire mastoid cavity was filled with thin pus and soft granulations. These being curetted away there was found to be a perforation of the mastoid tip. The lateral sinus was exposed for half an inch. The tegmen was not opened. All granulations and necrotic bone were curetted, leaving a mere shell of the mastoid. The wound was not closed but was packed with iodoform gauze in the usual manner. At the time of the first dressing, four days later, the gauze wick in the canal was not even stained. From this time until the wound healed there was no discharge. When the patient was seen in May, 1905, the membrana tympani had entirely healed. The entire membrane was thin and glistening in appearance; was freely movable; there was no scar tissue to be seen. The hearing was good, although not quite up to the normal standard.

In the treatment of the acute infectious diseases the importance of frequent examinations of the ears is paramount. Statistics show very conclusively that deaf-mutism is very frequently caused by some of the acute infectious diseases. Partial deafness is also caused to a very considerable extent. Early incision of the drumhead should be the routine practice. If this course were pursued in every case of diphtheria, scarlet fever, and measles, deafness would not be as common as it is at the present time.

It is beyond the scope of this paper to give explicit directions regarding the operation; this is the province of the aurist rather than that of the general practitioner.

The points that the author wishes to emphasize in this paper are:

1. The frequency of otitis media in diphtheria, scarlet fever, and measles.
2. The importance of early operation in mastoiditis occurring in these diseases.
3. The necessity of frequent examination of the ears when there are no symptoms referable to these organs.
4. Early incision of the drumhead in the acute infectious diseases.

#### DEPARTMENT OF PHYSIOLOGY, HYGIENE AND PUBLIC HEALTH:

ALLISON DRAKE, Ph. D., M. D.,  
*Editor.*

HENRY SEWALL, Ph. D., M. D.,  
*Consulting Editor.*

#### EPIDEMIC CEREBRO-SPINAL FEVER.

The Local Government Board of England, in consequence of epidemic cerebro-spinal meningitis in New York and some European localities, has issued a circular to the various councils throughout their jurisdiction describing the disease in its typical form and in its various deviations from that type and urging greater care in detecting and dealing with the disease.

In the circular, Radcliffe's definition of the disease is given and is as follows: "An acute, epidemic disease characterized

by profound disturbance of the central nervous system, indicated at the onset by shivering, intense headache or vertigo, or both, and persistent vomiting; subsequently, by delirium, often violent, alternating with somnolence or a state of apathy or stupor; an acutely painful condition with spasm—sometimes tetanoid—of certain groups of muscles, especially of the posterior muscles of the neck, occasionally retraction of the head; and an increased sensitiveness of the surface of the body. Throughout the disease there

is marked depression of the vital powers; not unfrequently collapse; and in its course an eruption of vesicles, petechial, or purpuric spots, or mottling of the skin, is apt to occur. If the disease tend to recovery, the symptoms gradually subside without any critical phenomena, and convalescence is protracted; if to a fatal termination, death is almost invariably preceded by coma. After death the enveloping membranes of the brain and spinal cord are found in a morbid state, of which the most notable signs are engorgement of the blood vessels, usually excessive, and an effusion of sero-purulent matter into the meshes of the pia mater and beneath the arachnoid."

The circular adds that Kernig's sign and *tache cerebrale* are to be observed. To obtain Kernig's sign the patient is placed so that the hip-joint is semi-flexed, and while the hip-joint is retained in this position, the knee-joint is extended passively. A contraction of the ham-strings then sets in, which causes resistance to the extension. *Tache cerebrale* is a congested streak produced by drawing the finger nail gently over the patient's thigh, abdomen, or face. In cases of meningitis this appears earlier (within 30 seconds), lasts longer (8, 10, or 15 minutes), and is broader and of deeper color than in healthy persons.

The circular further says: "Local prevalence of a malady distinguished by the foregoing features would, no doubt, attract attention, and would, it may be presumed, lead to early recognition of its true nature. But, while these features are characteristic of cerebro-spinal fever of typical and severe sort, experience has taught us that this fever may and does appear in milder or in anomalous forms which hinder identification, and which lead to its being mistaken for other ailments of more common occurrence in this country, such as sunstroke, enteric fever, pneumonia, influenza, sore throat, etc.

In these anomalous forms of cerebro-spinal fever, many or even most of the symptoms associated with the recognized type of the disease may be absent, while, in mild cases, they may be so slight or of such brief duration as to escape notice. It is, however, for such cases that it is necessary to be on the lookout, whether in relation with a definite occurrence of cerebro-spinal fever in a locality, or by reason of the prevalence in a particular neighborhood of illness not clearly referable to definite cause. In these circumstances, there would be advantage in the local medical officer of health endeavoring to secure, by arrangement with medical men practicing in his district, information as to the existence of cases of the kind in question.

"Failure to recognize cerebro-spinal fever is also apt to happen when the malady is of the 'fulminant' variety, in which death ensues rapidly. In these instances the disease has been mistaken for typhus fever, idiopathic tetanus, or malignant measles.

"An important aid to diagnosis may be found in examination of cerebro-spinal fluid, withdrawn from the lower part of the spinal canal by lumbar puncture, for the presence of the 'diplococcus meningitidis intracellularis' of Weichselbaum; a micro-organism which is now generally regarded as the specific cause of cerebro-spinal fever.

"Whether cerebro-spinal fever is spread by direct infection from person to person is matter of uncertainty; indeed, there is as yet no definite knowledge as to the way or ways in which its transmission may take place. Since, however, the possibility of direct personal infection cannot, on the evidence available, be excluded, it will be wise to endeavor to secure, as far as practicable, the isolation of the sick from the healthy. It will also be advisable to apply suitable measures of disinfection to premises that have been

occupied by the sick, and to articles that may have been in relation with them.

"In view of the fact that Weichselbaum's diplococcus has been observed in the mucus of the nose and mouth, not only of the sick, but also of those attending on the sick, there may be advantage in resorting to periodical ablutions of the nasal and buccal passages of the sick and their attendants."

#### SLEEPING SICKNESS.

Colonel David Bruce, M. B., C. M., F. R. S., R. A. M. C., etc., delivered a lecture on "Sleeping Sickness," August 23, 1905, at Pietermaritzburg. The lecture was in fulfillment of part of the scientific programme of the British Association for the Advancement of Science, which this year held its annual session in various parts of South Africa. The portion of the lecture dealing with the etiology, symptoms, and distribution of sleeping sickness was reported as follows (Lond. *Daily Times*, Aug. 25, 1905): "A slow, chronic inflammatory process went on for years among the cells of the brain, which in time interfered with their function and gave rise to the peculiar symptoms of the disease. But for a long time—sometimes years—the preliminary symptoms of sleeping sickness might be of so slight a character that no one suspected that anything was wrong. That was to say, a sleeping sickness patient might go about doing his ordinary work for years without his friends noticing that there was anything the matter; but gradually a slight change in the patient's demeanor became evident; he was less inclined to exert himself, he lay about more during the day; and at last his intimates saw he had the first symptoms of this absolutely fatal malady. His symptoms gradually deepened, and after a year or so—it might be longer—he was unable to walk, unable to speak, and even unable to feed himself, and he gradually

sank into a comatose condition and died. Sleeping sickness was caused by the entrance into the blood of a minute protozoal parasite called *trypanosoma gambiense*. This micro-organism was first named and described by Dr. Dutton, who recently lost his life on the west coast of Africa while pursuing the study of this disease. The trypanosome was an active, worm-like creature, which lived among the red blood corpuscles, where it could be seen wriggling about with great activity, if the blood were examined under the microscope with a magnification of 200 or 300 diameters. If the blood of cases of sleeping sickness were examined with sufficient care, this parasite would be found in every case. It was also to be found in fairly large numbers in the lymphatic glands of the body, and as the disease became advanced, it could always be found in the cerebro-spinal fluid.

"Sleeping sickness in Uganda had a very peculiar distribution, and the country could be divided into sleeping sickness areas and non-sleeping sickness areas. An examination of the natives living in the sleeping sickness areas showed that some 30 per cent. of them were in the early stages of the disease, and their blood contained these trypanosomes. On the other hand, although a large number of natives were examined in the non-sleeping sickness areas, in not a single case could a trypanosome be found; further, when the blood or cerebro-spinal fluid was taken from a person suffering with the disease and was injected under the skin of a healthy monkey, the animal took the disease and died after several months with typical symptoms of sleeping sickness, and its brain showed the characteristic alteration in substance which was found in men dying of the disease. When the Royal Society commission which had been sent to Uganda in the spring of 1903 had discovered these facts, they came to the conclusion that this *trypanosoma* was the true

cause of the disease. They next tried to discover the reason of the curious distribution of the disease in Uganda. Sleeping sickness was only found in a narrow area lying along the shore of the lake. It was found on both banks of the Nile as far as Lake Albert; it also occurred round the shore of Lake Albert and passed north along the Nile almost as far as Wadelai. The disease was very common among the inhabitants of the numerous small islands which dotted the northern part of Lake Victoria. It was evident, then, that the disease had some predilection for the vicinity of open water; and the commission set about to find the cause of this. In South Africa there was a disease among cattle and other domestic animals, also caused by a trypanosome—the *trypanosoma brucei*, which was conveyed from the sick to healthy animals by means of a biting fly, the *Glossina morsitans*. It was therefore thought that the sleeping sick-

ness in man would in all probability be found also to be conveyed by a biting fly. Large collections of all the biting flies in Uganda were made, and the astonishing result was arrived at that the distribution of sleeping sickness and of a biting fly, *Glossina palpalis*, corresponded exactly with one another. Experiments were then made which showed that this biting fly, *Glossina palpalis*, could carry the disease from the sick to the healthy any time within about 48 hours after biting the sick. Experiments then made with other species of biting flies, under exactly similar conditions, failed to give any result. Lastly tsetse flies (of the species *palpalis*) caught in the sleeping sickness areas and placed straightway on healthy monkeys conveyed the disease in every case. This disease, which killed every one it attacked, had already caused the death of some hundreds of thousands of natives in Central Africa."

#### DEPARTMENT OF OPHTHALMOLOGY:

MELVILLE BLACK, M. D.,  
Editor.

#### ATROPINE AND HOMATROPINE AS CYCLOPLEGICS.

Cycloplegia is now considered by almost all oculists an essential part of a thorough examination of the eyes for refractive errors. When homatropine was first brought into use as a cycloplegic it soon gained adherents because its action was rapid and its effects soon passed off. The average person, to-day, can ill afford to spend ten days in idleness. This is practically what it amounts to if atropine is used. If homatropine is used it means one day. I think it has always been conceded that the ten days of rest to the accommodation is a good thing; so is a vacation, but we do not always find it possible to do as we would like. The pioneers in the use of homatropine finally convinced a certain number of oculists that

this drug was an efficient cycloplegic; that its action was quick, powerful, and its after-effects transient. A few have claimed that it was as powerful as atropine. Many have claimed that it was as powerful as was needful for all practical purposes. The question has rested here for some time, and we find to-day that it is used by most oculists almost exclusively as a cycloplegic in refraction examinations.

Dr. Oscar Wilkinson, in the *Therapeutic Gazette* of July, 1905, publishes a paper entitled "A Clinical Study of the Relative Actions of Atropine and Homatropine as Cycloplegics." In order to get the opinions of men prominent in our profession he addressed a circular letter to these men and found that the majority do not use homatropine as a routine prac-

tice, but that they do use it extensively, and that only four out of the entire number make no use of it at all.

Wilkinson uses homatropine first, and if the patient is not relieved he then uses atropine. As a result of this practice he has 50 cases in which the comparative results are tabulated. An analysis of this table shows that there was an increase of .25 D. or more in 56 per cent., an increase of .50 D. or more in 19 per cent. The results were identical in 42 per cent. The axis of the astigmatism was changed in 13 per cent., and there was an increase of astigmatism of .25 D. or more, or change in the axis of same, in 32 per cent. He does not tell us if the patients were all satisfied, or better satisfied, with the corrections given under atropine.

His findings are subject to criticism because of an interval of weeks or months between the homatropine and atropine tests. Had he used homatropine and then in a few days used atropine, no such fault could have been found with his statistics. As he has made his tests, however, they may be very misleading and his table entirely in error, for it is a well-known fact that an error of refraction may actually change in a few weeks' time to the extent of one-quarter to one-half dioptre.

For the sake of argument, however, we will grant that his tables are correct, and that in 42 per cent. the findings under each cycloplegic were the same and that in

58 per cent. an increase in the refractive error was found. At best the difference was only one-half dioptre, and in the majority of cases it was less than this. Some of these cases were astigmatic increases, but these increases were generally not over a quarter of a dioptre. Practically speaking, a quarter of a dioptre difference in the findings from day to day can easily be made with the eyes constantly under the same cycloplegic, especially if we rely upon the answers of the patient to guide us. This is not so true of small errors as of large ones. Where the error exceeds 1.50 D. this is especially true. This is also true if the visual acuity is low, be the error large or small. I would also maintain that it is true with most refractionists who depend upon skioscopy. A few may be so gifted as to be certain of quarter dioptre differences. Dr. Wilkinson may be one of these few; I am not, hence I am skeptical. It is a well-known fact that errors of refraction seemingly increase after being corrected for a time, no matter what cycloplegic may have been used at the time the examination was made. We do not know if there has been an actual increase of the error, or whether it is more of the error becoming manifest as a result of rest to the ciliary muscle. To my mind Dr. Wilkinson's findings prove nothing. They certainly do not prove that homatropine is not a satisfactory cycloplegic.

#### DEPARTMENT OF MEDICAL JURISPRUDENCE:

PROF. J. H. PERSHING,  
*Editor.*

##### LEGAL BEARING OF THE FEE BILL.

The following query is addressed to this department:

"What effect will a fee-bill, adopted by an association of physicians and establishing the minimum regular charges of members of the association, have upon a physician (a member of the association)

who is a specialist, in the collection of a large fee in a particular case?"

If a fee-bill of charges has been established by an association of physicians recognized by law, such as a county medical society or a state medical society, incorporated pursuant to statute, such fee-bill can, if properly authenticated as having been adopted by the association, be

offered in evidence on behalf of the patient and against the physician. Such evidence, however, would not be conclusive upon the right of a specialist to charge a larger fee than that established by the fee-bill. The fee-bill is evidence of what an association of physicians themselves would regard as a reasonable charge under given circumstances, which evidence might be overcome by evidence showing that a higher charge under different circumstances was not unreasonable.

In the absence of a special contract, the law assumes that a patient will pay the physician what his services are reason-

ably worth. In estimating the value of the physician's services a court or jury should consider the professional skill and experience of the physician, the nature and character of the services rendered, the difficulties and the nature of the case, and the amount of services rendered.

Therefore, applying the above rules to the query above propounded, it follows that a fee-bill cannot be made conclusive evidence against a physician who is a specialist, such specialist having the right to charge for the special character of his qualifications in connection with the service rendered.

#### DEPARTMENT OF FOREIGN LITERATURE:

*German*—W. J. BAIRD, M. D., *Editor*.

*Italian*—JOSEPH CUNEO, M. D., *Editor*.

#### BACCELLI'S TETANUS TREATMENT WITH PHENIC ACID.

Great interest was aroused at the fifteenth Italian Congress for Internal Medicine, held at Genoa, October 24-29, by the favorable statistics presented by Baccelli in regard to his method of treating tetanus by subcutaneous injections of phenic acid. Behring has reported a mortality of 44 per cent. with his serum, and Tizzoni 30 per cent. with his, but Baccelli's method has had a mortality of only 10 per cent. in 200 cases, while Woods has had only one death among 34 patients thus treated.

Babes' research on dogs, rabbits, and pigeons has confirmed the positive action of phenic acid on experimental tetanus. Baccelli proclaims that phenic acid is not only a powerful moderator of the reflexes, but also an excellent antithermic and good antitoxic. The perfect tolerance for it of the most seriously affected patients he regards as a proof that it is needed. "The tolerance for the remedy is directly proportional to the indication for it." He never gives more than 1 gm., or at most 1.5 gm., per day. Queirolo's experience has confirmed Baccelli's. He gives .5 gm. to .7 gm. a day and has never noted any

inconveniences nor the slightest kidney disturbance. Ascoli stated that he had kept close watch of all the cases treated by Baccelli, and had become thoroughly convinced of the value of the treatment. As much as .5 gm. should be given without hesitation, pushing to .7 or .8 gm. if necessary, supervising the urine. He added that, when used in treating neuralgia and myalgia, doses up to 0.1 gm. a day should be currently injected. Its success in these affections was what impelled a trial in tetanus. All the speakers agreed that, except in the fulminating or extremely rapid cases of tetanus, the phenic acid treatment gives results superior to those realized by any other technic to date. J. C.

#### DIAGNOSIS AND TREATMENT OF THE NEU-ROSES OF THE STOMACH.

Boas, in Berlin *Deutsche Medizinische Wochenschrift*, No. 33, 1905: The diagnosis of the functional disturbances of the stomach is important in relation to treatment, not that in every case a so-called anatomic cure may be expected, but at least betterment, and in many cases disappearance of symptoms.

Still more important is the determination of normal function in the presence

of subjective symptoms of disease. Broadly speaking, from normal function one may infer absence of anatomic disease, but anatomic changes may exist without disturbances of function—ulcus ventriculi, beginning carcinoma, gastritis, and enteritis. On the other hand, there may be marked functional disturbance without anatomic changes—achylia gastrica, vomitus, nervous colica mucosa, nervous diarrhea, etc. However, there are well characterized organic diseases of the stomach and intestines that so powerfully influence the general nervous system that the resultant neurosis overshadows the organic disease. Another question is: May functional disturbance lead up to anatomic disease? Unquestionably it may, as, for example, a diarrhea of nervous origin may (due to constant irritation) cause a true intestinal catarrh. These facts render the sharp differentiation between organic and functional diseases of the stomach and intestines very difficult, and prove conclusively that a sharp mathematic differentiation is impossible and must ever be so. Only a careful comparative analysis of the subjective disturbances, the testing of the functional activity of the stomach and intestines as well as the nervous system, will enable one sooner or later to arrive at a diagnosis.

The usual classification of the neuroses of the stomach and intestine is into motor, sensory, secretory, and combined neuroses, according to most prominent symptoms; but when it is remembered how difficult it is to so classify some of the intestinal neuroses it is seen that this classification is not satisfactory. "I (Boas) would suggest two large groups of stomach and intestinal neuroses, viz.: Mono- and poly-symptomatic."

*A. Mono- and Poly-symptomatic Neuroses of the Stomach and Intestines.*—The characteristic of the mono-symptomatic diseases of the stomach is (as the

term suggests) the presence of a single symptom; in one case, conditions of lessened excitability; in another, increased. In the first group, anorexia, akrie, fullness, pressure, either with empty stomach or after taking food; belonging to the second, bulimia, cynorexia, pain in the stomach (empty), cardialgia, rumination, regurgitation, eructatio nervosa, vomitus nervosa, nervous hyperchlorhydria, and nervous secretion of gastric juice. In many of these cases a single symptom enables one to establish a diagnosis; in difficult cases assistance from the anamnesis and testing the function of the stomach and nervous system may be expected; from the anamnesis, an unstable nervous system, heredity, other nervous diseases, frequent psychic insults, the clinical history, especially periodicity with intervals of well being and the independence of the subjective symptoms of the quality and quantity of food. Of the objective symptoms most is to be expected from the functional testing of the stomach. If by repeated tests the motor and secretory functions are found to be normal it is safe to diagnose, neurosis. If with subjective nervous symptoms disturbance of function exists, an immediate diagnosis is impossible, and resort must be had to continued observation, test meals or diet, etc., as well as testing the nervous system: reflexes, skin, hyperesthesia, hypesthesia, anesthesia (all local). irregular pressure spots (painful) to either side of the spinal column.

Much more difficult of diagnosis are the poly-symptomatic diseases — neuroses. There we may have many symptoms usually met with in organic disease in association with others equally suggestive of a neurosis. An excellent example of this class of neuroses is nervous dyspepsia. Here, when taking the anamnesis, the multiplicity of symptoms suggests nervous dyspepsia—a richness in symptoms rarely seen in connection with or-

ganic disease. This, in connection with the clinical history, including etiology, is of the greatest value, and for this reason the physician should carefully hear his patient through, for often he will establish the diagnosis himself if only we listen attentively. This is very important, for a physical examination may fail to reveal objective symptoms, or if found there is danger of being led astray by them. One of the most frequent sources of error is the presence of a movable kidney. A dislocated kidney, especially of moderate degree, rarely causes symptoms, and if symptoms occur it should be easy to determine their nature. Another physical sign that should be skeptically weighed is the so-called succussion sound as an indication of atony or dilatation. To be of value it must occur in one in whom it is normally absent and in an empty stomach or several hours after a meal of known qualitative and quantitative compensation—a test meal. The anamnesis is important, pain independently of food (quantity or quality), but dependent upon mental and physical exhaustion, overwork, psychical excitation, etc.

Tests of function: The patient is given an easily digestible diet, such as is usually ordered during the third week of treatment of stomach ulcer; this is continued three to four days and all subjective symptoms recorded. After this the diet should be gradually increased by the addition of compote, vegetables, then raw fruit, and symptoms recorded as before. A comparison of the symptoms during the two periods will show whether we have to do with an organic disease or a neurosis. In organic disease the subjective symptoms are aggravated during the second period; if a neurosis, they remain stationary, diminish, or even disappear.

It should be remembered that slight motor and secretory disturbances do not prove the absence of a neurosis.

B. *The Mono- and Poly-symptomatic Diseases of the Intestine.*—A separation between neuroses of the stomach and intestine is of necessity more or less schematic, but unquestionably stomach and intestinal neuroses may exist independently of each other.

While we can not, as in the case of the stomach, test the function of the intestine, we may derive valuable data from the macroscopic and microscopic inspection of the feces, inspection of rectum and flexura sigmoidea.

Of mono-symptomatic neuroses of the intestine, only two are known, functional obstipation and nervous diarrhea. Characteristic of functional obstipation is its dependence on psychic insults and the good results attainable by mental and physical rest. The diagnosis of nervous diarrhea is difficult. Even macroscopically and microscopically conducted examinations of the stools give little help, as mucus is frequently present in the stools. Of importance is the independency of the diarrhea of laxative foods or medicines, (it is often, strange to say, not controlled but at times increased by opium); its dependency upon psychic influences (emotional diarrhea); its cessation (for a time) without apparent cause; very slight emaciation even after a continuance for years; general neurasthenic stigmata. In addition to spastic obstipation and nervous diarrhea, many (Nothnagel, Ewald) class colica mucosa as an intestinal neurosis. As analogous to nervous dyspepsia may be mentioned a general nervous or psychic (Strumpell) enteropathy, characterized by a sense of pressure and fullness in the meso- or hypo-gastrium, hand in hand with periodic enteralgia often in connection with flatulence (supposed), but careful examination reveals no indication of meteorism; defecations normal; general symptoms of neurasthenia.

*Treatment*—Of no other diseases may it be so well said that not the physician's



remedies but the physician himself heals them. When possible, residence for a time in a proper sanitarium is advisable—diet, baths, etc. Formerly the Weir-Mitchell treatment was much in vogue, but is now rarely carried out in all its details, especially the enormous quantities of milk. Many cases of mono-symptomatic neuroses (vomitus nervosus, etc.) are very rebellious to all treatment, and even after betterment, say in a sanitarium, there is a marked tendency to relapse, and one should be guarded in prognosis. The patient should not be allowed to return to regular work for months after he is in a condition to return to his home. For milder cases residence in the mountains, at the sea coast or a sea voyage may be advised. All things else being equal, anemic patients should be sent to the mountains, vigorous ones to the coast. Stomach washings and galvanization of the stomach are of doubtful value,

with the exception of faradisation of the rectum in atonic obstipation. Mineral waters, especially watering places, are distinctly harmful. So far as possible drugs are to be avoided.

[NOTE.—H. C. Wood says that in nervous dyspepsia the one remedy of value is silver nitrate. It should be given twenty minutes before meals, preceded by a glass of water hot as it can be sipped, with perhaps 10 grains of sodium bicarbonate to the glassful. He suggests silver nitrate  $\frac{1}{4}$  grain with ext. hyoscyamus  $\frac{1}{2}$  grain before each meal, to be given in pill form. It has given me good results. Of course, silver nitrate should not be continued for more than two months without intermission of some months. It is well to give it three weeks and miss one, until 90 to 100 doses are taken, then one or more months' intermission.—EDITOR.]

W. J. B.

## SOCIETY REPORTS

### THE MEDICAL SOCIETY OF THE CITY AND COUNTY OF DENVER

A regular meeting of the Medical Society of the City and County of Denver was held November 7, at the Academy of Medicine. President Rothwell was in the chair.

The scientific program was as follows:

1. Mastoiditis in Chronic Suppurative Otitis Media. By W. C. Bane, M. D.

The paper was discussed by Drs. Levy and Bane.

2. A Resumé by T. E. Carmody, M. D., of Notes on Experiences During the Russo-Japanese War, by S. Suzuki, surgeon-general Imperial Japanese Navy, read at the Fourteenth Annual Meeting of the Association of Military Surgeons of the United States, held at Detroit, Mich., September 26-29, 1905.

Under the head of five-minute talks the following were reported:

1. A Treatment of Cataract. By Edward Jackson, M. D.

Dr. Jackson said he had successfully removed cataract by prescribing the profuse drinking of water and by dropping atropine into the eye (of the young) to keep the lens immobilized.

2. A case of Traumatic or Contusion Pneumonia. By Morris J. Krohn, M. D., as follows:

Male, 32 years of age, married. Nationality, Irish. An iceman by occupation. While in an intoxicated state fell off his wagon, front and hind wheels passing over his chest, fracturing second to seventh ribs close to angle on right side,

including a compound fracture of right clavicle (greater convexity). He was removed to St. Anthony's Hospital. Ribs strapped and fracture of clavicle reduced and set according to "Sayre's methods." On the third day he developed a temperature of 104°. Rapid pulse, 140. Respiration almost one-half as fast as pulse rate. On physical examination it was found he had acute lobar pneumonia involving the entire right side. It became necessary to remove all dressings for fractured ribs and clavicle, and to treat pneumonia first, which ran a course (typical) of crisis occurring on ninth day. Patient convalesced rapidly. Two weeks later Dr. Krohn examined him and found ribs united and vicious union had taken place in fractured clavicle. Six weeks later patient was able to go to work at his usual occupation.

In conclusion the doctor stated that this case is of unusual interest because of

(a) Rarity of recovery from typical cases of traumatic pneumonia.

(b) Grave prognosis of pneumonia in alcoholics.

3. Exhibition of specimen of cystic disease of the uterine adnexa by S. D. Van Meter, M. D. There were two small cysts and their pedicles formed a complete half knot.

On motion the society adjourned.

A regular meeting of the Medical Society of the City and County of Denver was held at the Academy of Medicine November 21. President Rothwell was in the chair.

Mary E. Bates, M. D., F. A. Davis, M. D., A. J. Simpson, M. D., and Allan G. Hardman, M. D., were admitted to membership in the society.

The scientific program was as follows:

1. An Address on Homœopathy. By F. E. Waxham, M. D.

By vote of the society visiting physicians were invited to participate in the discussion of Dr. Waxham's paper. Drs. J. B. Kinley, Edward Jackson, Clinton Enos and James R. Arneill discussed the paper as per program. In the general discussion Drs. G. S. Peck, David A. Strickler and F. E. Waxham took part.

2. An Old Hare-Lip Operation. By John Boice, M. D.

Under the head of five-minute talks:

1. The Visiting Nurse Association of Denver. By Eleanor Lawney, M. D., as follows:

The Visiting Nurse Association of Denver was formally organized six years ago. Last year it employed three nurses and a scrub woman. It lends infants' outfits, bed linen and other articles as required, and furnishes drugs on prescription of attending physicians. The work is supported by quarterly allowance from the Charity Organization Society, by annual dues of two dollars each from associate members, by gifts, and by the small sums collected from those that are able to pay something. The nurses go only to the homes of the very poor.

A staff of thirty doctors have given their services to this charity. They are called upon when a poor person is found to be sick and without medical care, but often it is the doctor who asks for the nurse. Any reputable physician may call upon the association for a visiting nurse. The nurses do not work in connection with midwives.

Last year the nurses made, in round numbers, 5,000 visits, upon 500 patients. This work included the care of nearly 150 maternity cases.

The Charity Organization Society has now appropriated money for the employment of a fourth nurse, who will work wholly among the tubercular poor.

Heretofore the nurses have done such work as they were able to do among the

tubercular; have taught the hygiene of tuberculosis and distributed instruction leaflets. Cases of scarlatina, diphtheria and measles are reported to the health office and are not revisited.

The office of the society is in the Academy of Medicine building, and may be reached by telephone listed under the name of Visiting Nurse Association.

2. Sympathectomy for Glaucoma. By George F. Libby, M. D., as follows:

The case of a man 31 years old, who in 1898 had lost the vision of the right eye from the explosion of a blank cartridge. Two years later this eye had been removed because the left had become mildly troublesome. Six months ago left sympathectomy had been done by advice of an oculist, for supposed glaucoma. Repeated examinations by several oculists since had failed to reveal any marks of previous glaucomatous condition or tendency thereto, leaving room for doubt as to the need for this radical operation. Dr. Libby pointed out that sympathectomy had not accomplished all that had been hoped or claimed for it, and so had lost favor to some extent with oculists; and that its use was limited to the desperate cases of hemorrhagic glaucoma, where to be effective the bilateral operation should be made.

3. (a) Exhibition of a specimen of a multiple uterine myoma; (b) exhibition of a specimen of uterine carcinoma by W. W. Grant, M. D., who described the cases and specimens as follows:

The multiple uterine myoma was in a woman of 56 years. Operation supra-vaginal hysterectomy performed recently on account of pressure symptoms chiefly. The specimen, he said, was interesting because of an unusually pretty illustration of calcareous degeneration of the large tumor of the lower segment of the uterus.

The carcinoma of the uterus originated in the cervix. Vaginal hysterectomy was performed. The specimens split lengthwise

showed well the progress of the disease to the corporeal endometrium. The case was interesting chiefly on account of method of procedure in operating. The tumor was a foul, cauliflower-looking mass which had dilated and everted the external os to such an extent that a complete primary operation could not be done without soiling, and probably infecting the fresh surfaces, so he proceeded in two stages. First excised the main growth and then curetted the parts. The vaginal cervical mucosa not being much involved he anticipated that in two or three days he could securely inclose the diseased part by stitching the external os tightly. On the third day, from first operation, this proved feasible, and the operation was completed most satisfactorily. The peritoneal and vaginal flaps were stitched separately and cigarette drain applied to intervening space, while the vault was loosely packed with iodoform gauze. The immediate result was excellent and he believed would be permanent.

Dr. H. G. Wetherill, the newly elected President of the State Medical Society, suggested that it would be advisable for the society to appoint a committee on arrangements to provide for the annual meeting of the State Medical Society to be held in Denver in the autumn of 1906, in ways not provided for by the regular standing committees. Thereupon Dr. Edward Jackson moved that the chair at its convenience appoint a committee of arrangements for the next regular meeting of the State Medical Society. On receiving a second the motion was unanimously carried.

Dr. T. Mitchell Burns moved that the society vote its approval of the purposes and methods of the Visiting Nurse Association of Denver and commend the work already done by that organization. The motion was seconded and unanimously carried.

On motion the society adjourned.

## BOOK REVIEWS

### **The Practical Medicine Series of Year Books.**

Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Issued monthly under the general editorial charge of Gustavus P. Head, M. D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Volume II, General Surgery. Edited by John B. Murphy, M. D., Professor of Surgery, Northwestern University Medical School. Series 1905. Price of this volume \$1.50. Price of the series of ten volumes, \$5.50, payable in advance. The Year Book Publishers, 40 Dearborn Street, Chicago.

In this volume the editor has again reproduced a number of articles which treat in an analytical or statistical manner of the pathology or operations of an organ, or sets of organs, based usually on an enormous or extraordinary experience of an individual which was sufficient to make his statements authoritative.

We approve of such method because of its greater instructive benefit to the reader, who can find in this little book of 500 octavo pages the latest and most approved methods along the lines of surgery.

Of especial interest to the reader will be the surgery of the pancreas, gall bladder, and stomach, the literature of which is reviewed at length, and illustrations accompany the different steps in the operative technique.

The experimental work upon arterial, venous and heart surgery is amply reviewed, and the practical rewards fully detailed.

In conclusion the same praiseworthy features which early won for the previous editions, characterize this new one, and we heartily recommend it to all who are interested in the latest advances of surgery.

O. M. S.

**Manual of Operative Surgery.** By John Fairbairne Binnie, A. M., C. M., Aberdeen; Professor of Surgery, Kansas City Medical College, Etc. 1905; price \$3.00; P. Blakiston's Son & Co., publishers, New York.

Binnie has aimed in this work to write a practical book, as he says in the dedication to Dr. Robert F. Weir, of New York, "to describe operative procedures as they are done on the living subject, instead of on the normal cadaver."

The surgery of bones and joints, amputations and ligations have been omitted.

The book is divided into: (1) Head and Neck, (2) Thorax, (3) Abdomen, (4) Genito-Urinary Organs, (5) Extremities, (6) Spine, (7) Unclassified Topics.

Many illustrations, some of which are colored, materially aid in the elucidation of the text.

All of the important operations are described in detail, each step being taken up in one, two, three order; in this way practically eliminating misunderstanding.

Cranial surgery is completely covered, including the mastoid operation. Operation for epilepsy is discouraged. In the surgery of the fifth nerve the resections are described and then the Hartley-Krause operation. The Abbe operation is spoken of favorably, but the injection of osmic acid is not mentioned.

Dollinger's operation, the subcutaneous removal of tuberculous glands of the neck, is considered difficult and dangerous. The Jonnesco operation, excision of the cervical sympathetic, is described, but the value of it, according to the author, is still sub judice.

After describing the different methods of closing the abdominal wall, Binnie says: "It is better to have a post-operative hernia than a corpse."

In Fig. 277, showing the introduction of the intestinal suture, the common error is made of magnifying the intestinal wall many times, but not enlarging the thread at all, in this way conveying an incorrect idea as to the actual relationship between these structures.

Halsted is given credit for calling attention to the importance of the submucosa in intestinal suturing, which credit belongs to S. D. Gross.

Partial gastrectomy or pylorotomy is described according to the Mayos, and is called the "Rochester" method, as it has been elaborated by the Mayos, while most features originated with others.

The different methods of removing the appendix are described, but there is no mention of the use of the actual cautery as advocated by Kelly and by Eastman.

If diagnosis of appendicitis is made within 48 hours, the author says operate at once,

the earlier the better; if after 48 hours, the Ochsner treatment is advocated.

In general peritonitis, after adopting the exaggerated Fowler position, the author's results have been improved immensely.

In cholecystostomy, the author sees little advantage in a needle puncture over a cut, and therefrom seldom uses the classic aspiration of the bladder.

In the section devoted to operations on the biliary passages the inexperienced operator is advised to avoid attempting to suture the common duct. This part of the subject is supplemented by a very concise chapter on "Indications for and Choice of Operation."

Inguinal hernia is covered by Macewen's operation, the Bassini, the Ferguson and the Johns Hopkins methods. To Binnie the Ferguson operation seems "eminently sane."

The Mayo operation for umbilical hernia is described, illustrated and recommended.

Nephropexy is discussed at length, and the Ferguson-Edebohl's decortication of the kidney is dismissed with the statement that the question is still unsettled.

The surgery of the ureter and the prostate are well covered, and the more uncommon conditions, extrophy of the bladder, undescended testicle and hypospadias, are considered.

Laminectomy is described and reduction of fractured vertebra by means of extension and local pressure is justly condemned.

Very practical chapters on "Methods of Drainage," and "Ligatures and Sutures" are inserted towards the close of the book.

A very complete and workable index concludes the volume.

F. G. C.

**A Text-Book of the Practice of Medicine for Students and Practitioners.** By Hobart Amory Hare, M. D., B. Sc., Professor of Therapeutics in the Jefferson Medical College of Philadelphia; Physician to the Jefferson Medical College; One Time Clinical Professor of Diseases of Children in the University of Pennsylvania; Laureate of the Royal Academy of Medicine in Belgium; of the Medical Society of London; Author of "A Text-Book of Practical Therapeutics," and "A Text-Book of Practical Diagnosis." Illustrated with 129 engravings and ten plates in colors and monochrome. 1905. Lea Brothers & Co. Philadelphia and New York.

The author if this book has had a large experience in both hospital and private prac-

tice, and has already attained considerable reputation by his former publications and his long editorial experience. He is gifted with a faculty of expression with which few are favored, and an ability to select and present the salient features of the subject he discusses which renders all his work interesting and profitable to the reader. These qualities are present to a prominent degree in this, his latest, work.

He has constantly borne in mind the needs of the practitioner and student, and has succeeded in presenting a characteristically practical work. As is to be expected, therapeutics is really the principle part of his discussions, a fact which will make this volume especially attractive to the reader. The author's vast experience along this line lends unusual weight to this portion, which is encouraging when contrasted with the therapeutic nihilism of many of our leading writers in medicine.

Considerable as are the merits of this volume, there are still some errors and defects which we hope to see removed from future editions, for it is not to be supposed that it will run through only one edition. Thus, for example, in speaking of chicken pox, he says: "It is a noteworthy fact that the eruption of varicella is always discreet and never confluent. It is never profuse, as in smallpox. Rarely the vesicles appear on the mucous membranes." This is not the case in either particular, as the critic has had personal opportunity to notice, and is confirmed by other authorities. Also, in discussing pleurisy, he states that "It occurs in four forms, namely, dry or fibrinous, sero-fibrinous, purulent, when it is called empyema, and that due to tuberculosis or tubercular pleurisy." After so classifying the types, he describes the first three and leaves the last, which is by far the most important, undiscussed, unless we accept as a satisfactory treatment of this subject one page devoted to pathological anatomy under the general head of tuberculosis, and two pages and a half devoted to pneumothorax, hydro-pneumothorax, and pyo-pneumothorax, in which the most common cause is given as tuberculosis.

**The Physician's Visiting List** (Lindsay & Blakiston for 1906. Fifty-fifth year of its publication. P. Blakiston's Son & Co., publishers, 1012 Walnut street, Philadelphia.

A visiting list is not only a great convenience, but, to the practitioner who has any business

of any great amount, it is a necessity. There are a number issued by various publishers, but one of the most satisfactory is Blakiston's, the popularity of which is indicated by the fact of its continuous publication for fifty-five years. The memorandum pages for memoranda of visits, general memoranda, addresses of patients, addresses of nurses, records of bills and accounts asked for, vaccination engagements, obstetric engagements, record of births, record of deaths, and cash accounts, furnish a very complete system of records for the physician. In addition to this, there are some two dozen pages of printed memoranda as follows: A Chapter on Incompatibilities, The Immediate Treatment of Poisoning, The Metric System of Weights and Measures, with a table for converting apothecaries measures into grams, a Dose Table, giving the doses of official and unofficial drugs, the latter being revised to accord with the new (1900) pharmacopea, a Chapter on Asphyxia and Apnea, and a table for Calculating the Period of Uterogestation.

This visiting list is in most convenient size for carrying in the coat pocket, and is substantially bound in leather. It is presented in several editions to suit the most varied wants. The regular edition is for twenty-five, fifty, seventy-five, or one hundred patients weekly, varying in price from \$1.00 for the first to \$2.25 for the last. The perpetual edition, No. 1, has space for 1,300 names, price \$1.25; No. 2, space for 2,600 names, price \$1.50. In the monthly edition two opposite pages are devoted to each month, so that the patient's name need be written but once during that time. Price in plain leather, 75c, with leather cover, pocket and pencil, \$1.00.

#### New Committees

The following new members of committees of the State Medical Society have been chosen:

Scientific Work—J. N. Hall, Denver; Will H. Swan, Colorado Springs; Melville Black, Denver.

Public Policy and Legislation—Sherman G. Bonney, Denver; Charles B. Dyde, Greeley; R.

Sixteenth Annual Report of the Storrs Agricultural Station, Storrs, Conn. For the year ending June 30, 1904.

This report is a welcome annual visitor. While the investigations are undertaken especially because of their importance to agricultural interests, there is always a great deal of value to the medical profession. In this volume the reports present more than usual of this material, as the following titles will indicate:

"The Effect of the Temperature in Determining the Species of Bacteria Which Grow in Milk;" "The So-called 'Germicidal Property' of Milk;" "The Food-Value as a Food of Milk Solids;" and "Experiments on the Digestibility of Certain Cereal Breakfast Foods." These, especially the latter, are all reports of investigations of the greatest value to the physicians, as well as to the farmer and dairyman, and are extensive and presented with the greatest degree of accuracy of detail. The other reports are more strictly agricultural in nature and need not be mentioned here.

#### A Manual and Atlas of Orthopedic Surgery.

By Dr. James K. Young, Professor of Orthopedic Surgery, Philadelphia Polyclinic, etc.

P. Blakiston's Son & Co., 1012 Walnut street, Philadelphia, announce the forthcoming publication of this work, which is destined to occupy a very important place in medical literature. It is to be a quarto in size, of about 900 pages, and will contain upwards of 800 illustrations. A definite price for the complete work has not yet been fixed, but all advance orders received will be filled, so soon as the book is ready, at \$10.00 for cloth binding, and \$12.00 for half-morocco binding.

W. Corwin, Pueblo. Ex-Officio: H. G. Wetherill, President; Melville Black, Secretary.

Auditing—J. C. Chipman, Sterling; E. H. Robertson, Boulder; F. Gregory Connell, Salda.

Credentials—Melville Black, Denver; E. E. Evans, Fort Morgan; Dryden Johnson, Antonio.

Necrology—E. Stuver, Fort Collins; Minnie C. T. Love, Denver; J. G. Espey, Trinidad.

# ANNOUNCEMENT

The requirements of practice, the editorial management and the business management of THE JOURNAL having increased to such an extent as to make too great a demand upon both time and strength, I have sold the magazine to The Reed Publishing Company, and I bespeak for them the good will and confidence of all friends and patrons of THE JOURNAL.

By the terms of the transfer all subscription and advertising accounts due THE JOURNAL prior to the number for January, 1905, are payable to William N. Beggs, who assumes all liabilities incurred prior thereto. All advertising and subscription accounts maturing from and after January 1, 1905, are to be due and payable to The Reed Publishing Company.

WM. N. BEGGS.

The name, good will and business of THE COLORADO MEDICAL JOURNAL have been purchased by The Reed Publishing Company. While the future numbers of THE JOURNAL will be the best evidence of what the new publishers propose to do, it is not considered presumptuous at this time to state that THE JOURNAL will be brought up-to-date in every particular, and sufficient capital, push and brains placed at its disposal to keep it in the front ranks.

The new publishers have been sixteen years in the printing and publishing business in Denver. They own and operate a large, modern printing establishment, equipped with the latest Linotype machines, etc. There is not a dollar of encumbrance against anything owned by the company. The company enjoys a large and lucrative business, and for the past five years has been branching out extensively into the book and magazine publishing field. It is in a position to surround THE JOURNAL with those things necessary to bring success: Not financial success merely, though that part of it will not be despised, but more particularly will it be the ambition and earnest desire of the new publishers to so conduct THE JOURNAL that it may be an able and fitting representative of the skill and progress of the medical fraternity of the Rocky Mountain country, and that it may deserve the friendship, respect and confidence of the profession, without which a literary and financial success would be impossible.

The new publishers are not strangers to the profession in the West, having been connected in a printing way with three prominent medical journals, as well as the official printers of the transactions and papers of the Colorado State Medical Society for several years.

THE JOURNAL had reached that point in its history where the editorial and business requirements were too exacting for one man, with an extensive practice. The former owner has therefore very wisely turned it over to those who make a business of magazine publishing.

THE JOURNAL under its eleven years of existence has attained a success of no mean proportions throughout the world in the field of medical literature. William N. Beggs, A. B., M. D., whose distinguished editorial and professional ability is recognized by all, has been offered and has accepted the position of Editor-in-Chief of the new JOURNAL, as well as the editorship of the Department of Tuberculosis, which will be made an important feature. T. Mitchell Burns, M. D., well and favorably known to the profession, whose work in the hospitals, college and general practice has brought him rapidly to the front in the line of his particular specialty, has been tendered and accepted the editorship of the Department of Obstetrics and General Consulting Editor of the magazine, while Allison Drake, Ph. D., M. D., has accepted the position of Associate Editor, so ably filled by him in the past. He will also be editor of the Department of Hygiene and Public Health.

Other additions to the staff will be announced later. It will be the intention of the new publishers to retain all the good features, add many new ones from time to time, and strengthen the magazine all along the line as rapidly as is consistent.

One of its chief claims for support will be the fact that the new owners will have no ambition but to serve the interests of the profession as a whole. The new JOURNAL will represent no faction. It will have no enemies to punish or friends to reward. Ethically, it will be in the hands of those composing its editorial staff.

We ask the indulgence of our friends temporarily while we get our bearings, then the support our efforts and ability may seem to deserve.

THE REED PUBLISHING COMPANY.





## THE URIC ACID DIATHESIS.

The uric acid diathesis is assumed a position of such importance as a pathological factor that it requires a most careful study.

Uric acid is undoubtedly a product of malassimilation. Persons who suffer most from uric acid formation are neurotic, live sedentary lives, are very susceptible to cold, have digestive irregularities and incompetent kidneys. They are persons whose vitality is deficient; muscular system weak, and whose blood is lacking in hemoglobin.

The vigorous and active muscular system consumes hemoglobin in quantities, and consequently creates a large demand for it. There is a reaction between the hemoglobin and uric acid, during muscular consumption, in which the latter is burnt into more soluble products.

When the muscular system is undeveloped, the heart beats faster, the brain is more sensitive, the blood is comparatively cold, because of the deficiency of hemoglobin, and the skin, rendered conservative, because of the small amount of heat manufactured, is ever alert to prevent its loss by radiation.

With these conditions, health is unstable, because the system is always in a more or less unbalanced state. There will be irregular crises; when the uric acid accumulates in such quantities that the system can not dispose of it, or when the strain on any one organ becomes too great, or when excesses or exposure precipitate disease, or when vitality is reduced from any cause.

The crisis usually consists of a nerve storm, as sick headache, epileptic con-

vulsions, gastralgia, angina pectoris, renal colic, spasm anywhere, followed by relaxation, prostration, profuse urination and sweating, with rapid elimination of uric acid and temporary subsidence of symptoms.

Patients whose vitality is somewhat greater, and who have learned how to manage themselves, avoid these storms, but suffer in a minor degree from nervousness, spasmodic circulation and renal irritability.

In the treatment of this diathesis, mild, systematic, open-air exercise is of the first importance. At the same time too much exercise is as bad as too little. Regular exercise creates and keeps up a demand for hemoglobin, but over-exercise breaks down muscular structure and fills the system with poisons. It also drains vitality.

The next question is diet. The fruit cure—a breakfast composed entirely of fruit—an abundance of pure water—meat but once a day, and an avoidance of vegetables containing nitrogenous principles, will aid greatly in modifying this diathesis.

But inasmuch as we can not re-make ourselves in a single generation, uric acid will continue to form, and gradually to accumulate, causing symptoms more or less troublesome. If Doctor and patient learn to recognize these early, and give eliminating agents to unload the system before the irritation reaches an explosive point, the patient's suffering can be cut short, an attack of sickness prevented, and his business value need not be injured by the stigma of uncertain health.

An excellent preparation for eliminating uric acid is Lithiated Hydrangea. Epsom salts is a good remedy,

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where there is fullness of tissue; abdominal plethora with sluggish bowels. If arterial tension is very high, jaborandi is often useful in conjunction with the above treatment.

The value of iron in stimulating the assimilation of oxygen must not be overlooked. It acts very well in combination with ammonia, if you can get a fresh, well-made *mistura ferri et ammonii acetatis*.

Flannel should be worn next the skin the year around, regulating the weight by the temperature and atmospheric conditions.

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### COPY OF AN INTERESTING LETTER.

Louisville, Ky., Jan. 3, 1905.

The Anasarcin Chemical Co.,  
Winchester, Tenn.

Dear Sirs:

After a severe attack of Cardiac Asthma, from exposure, the first I ever had, and followed by three other attacks, three or four weeks apart, and great dyspnoea and great weakness, being 78 years old, I found my legs and feet swollen up to my body, with great dyspnoea, scanty urine, etc. My doctor had a sample of your medicine, and I took one tablet three times a day for three days, when all the swelling was gone, breathing better, walking about feeling better. In about three weeks, swelling returned. I, in the meantime, took one tablet a day for ten or twelve days, since which time there has been no swelling of feet, but some dyspnoea with great weakness, but can lie down in bed and sleep well all night, bowels regular, appetite fair, kidneys act well, not very much at a time, no pain nor

very high color. I am able to walk around a little, but owing to bad weather stay by the fire, as the cold threatens asthma, and tonics do not strengthen me much.

Now, I wish to say that you have made one of the grandest discoveries of the times. I have been practicing medicine for over fifty years, and just such cases as mine, I have always lost, and every other doctor that I know. After repeated tapping, the patient generally dies. Your medicine will do away with the trocar, and save many patients that would die after tapping. It is with the Epsom salts, the finest eliminator I ever used. Twice after using it for three days in succession, my pulse went down to twenty (20) per minute without any bad effect, showing its power over the heart, and purging does not weaken like others. I am so sure that my case is Bright's disease that I have not had my urine examined, and my doctor believes the same.

Now, will you be so kind as to send me a sample with all the literature you can, as I am anxious to learn more about so valuable a medicine. All honor to the man or men who succeeded in giving to the profession so timely and invaluable a gift.

Yours admiringly,

F. A. DAY, M. D.

2004 Baxter Ave., Louisville, Ky.

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### A FEW REMARKS ON ASTHMA.

Asthma is entirely a spasmodic condition produced by a spasm or contraction of the circular muscular fibres of the air tubes by which the tube caliber is reduced and breathing becomes abnormally difficult. It is a most oppres-

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# LIQUID PANCREOPEPSINE

(WARNER & CO.)

**FULL PINT BOTTLES.**

**AVOID SPURIOUS IMITATIONS.**

CONTAINS ALL the ACTIVE GASTRIC and INTES-TINAL FERMENTS: Pepsin, Lactic, Hydrochloric Acids and Pancreatin. A MOST RATIONAL TREATMENT for Func-tional Inactivity of Digestion and Faulty Assimilation of Nitro-genous and Starchy Foods, converting them into SOLUBLE PEPTONES, ALBUMOSES and GLUCOSE.

All authorities agree that Lactic and Hydrochloric Acids must be present in the Stomach to cause Pepsin to be Active and are NOT Contraindicated with PANCREATIN, which MUST NECES-SARILY BECOME ACID WHEN PASSING THROUGH THE STOMACH, REGARDLESS OF HOW ADMINISTERED, and thus, its Activity is retarded until the reaction is changed by uniting with the Bile and other Alkaline Secretions in the Duodenum, when the PANCREATIN BECOMES PHYSIOLOGICALLY ACTIVE.

**CLINICAL RESULTS HAVE PROVEN ITS EFFICIENCY.**

**WILLIAM R. WARNER & CO.** PHILADELPHIA  
NEW YORK  
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**Manufacturing Pharmacutists**

Messrs. WILLIAM R. WARNER & CO.,

Philadelphia, Pa.

Kindly send to me a Physician's sample of Liquid Pancreopepsine.

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No. Street .....

City..... State.....

sive condition and when the spasm is over it leaves the patient much exhausted. It is essential to prevent the asthmatic attack as far as it is possible. The point of greatest importance in the treatment of the sufferer is the improvement of the general health; if this can be accomplished the system is necessarily supplied with normal power to fight the cause or causes which bring on an attack and to stand the strain of the attack. A constant shortness of breath, aggravated at times by colds after exposure indicates either an asthmatical or emphysemic condition. In this condition the air cells are abnormally dilated and frequently torn so that they coalesce one with another and the normal elasticity of the lung is greatly reduced, consequently, the patient cannot properly empty the lungs. As the result of this the chest becomes barrel shaped and the respiratory movements are very much diminished, and consequently the blood is very imperfectly oxygenated and the general system shows a mal-nutrition and anaemia. To prevent the tearing of the cells into each other, as well as the spasms, it is highly necessary to improve the condition of the lung tissues by building up the general system. Where this is completely accomplished it relieves the distressing sensation of shortness of breath. It lessens the tendency to rupture and reduces the respiratory spasm. To restore the natural nutrition of the lung tissue is to enable it to recover its elasticity and this can only be done completely by supplying an absolute and perfect nutrition.

In a large clinical experience I have found that Bovinine meets every demand and can be given with impunity at all ages. It supplies perfect nutrition,

zones up the enfeebled circulation—and keeps up a proper and gentle stimulation.—E. E. Rowell, Jr., M. D.

## SALITHIA.

Magnesium sulphate has long been recognized as the most effective of the Saline cathartics. Modern methods of treatment demand the establishment of a clean and empty alimentary canal *primæ viæ* and this is obtained it is easy to affect the system as may be desired. Salithia is a combination of magnesium sulphate lithium and colchicine in effervescent form. It is the "twin" of Saline Laxative (Abbott) which has become a standard remedy with the profession. The formula was particularly designed to relieve the system of uric acid and at the same time to exert a decided chologogue action. In all diseases of the uric-acid type Salithia should be given in dram doses once or twice daily (preferably largely diluted with hot water) and if it is given on an empty stomach early in the morning its effect is apparent in two hours. Hepatic activity is secured and a normal condition of the urine follows in a few days. In using Salithia in Gout, Rheumatism or Lithemia it is well to exhibit conjointly Calcalith (calcium carbonate comp.) in ten-grain doses three times daily. If you have not yet used these two remarkable remedies you should do so. They are "reputation makers" and that means money makers, of course. Literature and samples will be sent free; as well as a free copy of Abbott's Alkaloidal Digest, a 300-page book of brief therapeutics and practice, by addressing The Abbott Alkaloidal Co., Ravenswood, Chicago, Illinois.

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## READING NOTES.

### THE FORMATION OF BOYS' GUN CLUBS.

From various sections of the country comes the welcome news that Boys' Rifle and Gun Clubs are being organized. This movement to instill both a love for the great "out-of-doors" and teach the "young idea how to shoot" is a most gratifying and wholesome tendency, and worthy of emulation wherever possible.

Give your boy a chance to enjoy nature by giving him a definite object in view. The average youngster is cooped indoors entirely too much—he of necessity requires a constitution that will stand him well in the wear and tear of life, and cannot do better than to roam the fields armed with a reliable firearm.

Again, the happy comradeship of a congenial gun club, tempered with the discipline that target shooting involves, makes a man out of the average boy. Shooting at a target brings back the rosy color of the cheeks, promotes a clear mind and vigorous health, and inculcates such invaluable qualities as *Decision of Character, Deliberation and Self-Control*.

The eminent Canadian publicist and statesman, Prof. Goldwin Smith, declared not many months ago that "school children are being unduly rushed in their studies, and that the cramming system of endeavoring to impart knowledge is most detrimental to their health." Other trained observers and prominent educators have recorded themselves in the same positive tones, and the famous makers of Ste-

vens rifles, pistols and shotguns, the J. Stevens Arms and Tool Co., Chicopee Falls, Mass., are pioneers in lending their vigorous co-operation and alert efforts to the great gun education movement which is galvanizing into activity the latent desire of every American boy to "own a gun and learn to shoot." The wise father encourages this healthy sign of the times, and Boys' Gun Clubs, Cadet Companies, etc., are more and more becoming an established reality.

The 1904 illustrated book of Stevens Facts (136 pages, with colored cover design by A. B. Frost) describes the wide range of Stevens products and embodies detailed information relative to shooting, ammunition, the choice of a firearm, proper care of the same, etc., etc. Will be mailed anywhere for four cents in stamps to cover postage.

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**CYSTITIS.**—Dr. J. Henry Dowd, in the *Buffalo Medical Journal*, says the treatment of cystitis should be carried on from the following standpoint: (1) the cause; (2) relief of distressing symptoms; (3) rendering the urine bland and unirritating; (4) control of inflammatory process; (5) general treatment. The cause must be ascertained, but it is unnecessary to search an inflamed bladder for tumor, stone, foreign bodies, etc., as with our present knowledge of the urine and a careful history of the case, the above named conditions are generally ascertainable. He mentions several hypothetical cases and gives the treatment to be followed.

Case 1.—Diagnosis, acute cystitis. No evidence of previous bladder

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take other iron preparations even for a short time. In people who require iron and are afflicted with nervous dyspepsia Pepto-Mangan (Gude) is not only by far the best ferruginous preparation, but at the same time a stomachic which has a most favorable influence upon the secretory functions of the stomach.

4. Its blood-forming and in general curative properties depend both upon the direct introduction of iron and upon its power of stimulating the appetite and digestion. Owing to its fortunate composition this preparation deserves a general symptomatic employment.

5. Unpleasant by-effects are excluded.

Pepto-Mangan (Gude) therefore constitutes a valuable addition to our

list of remedies. I prefer this preparation, which has never left me in the lurch, to all similar products, and am persuaded that within its field of indications it will prove of equal service to others. As regards the dose, it is advisable in general to follow the printed directions, although in individual cases it may be exceeded without the least untoward effects; for it is one of the prominent advantages of the preparation, that while exhibiting in full its curative effect, it never satiates or becomes repugnant, but permits of administration according to requirements for a short period as well as many months, and that it is equally well tolerated by children and adults of both sexes without exciting the least aversion.

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*All desiring the latest and best in business education, thorough instruction and the most rapid advancement, will find it to their interest to come to*

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**DAY AND NIGHT SESSIONS—OPEN ALL THE YEAR.**  
 Endorsed by the Governor, Mayor, State and City Superintendents and Principals of Schools, and one hundred leading business men of Denver.  
 Wants for illustrated booklet (in colors) giving full information; also beautiful souvenir of penmanship.

**M. A. KEARNS, A. M., Principal.**

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## READING NOTES.

### A FEW REMARKS ON THE TREATMENT OF TUBERCULAR EXACERBATIONS.

By DR. R. D. MUSSEY, Glendale, Ohio.

Exacerbations are a common feature of preliminary tuberculosis, as everyone knows who has had much experience with these cases. Indeed they are almost characteristic of the disease. A tuberculosis patient may get along quite comfortably for weeks, and even months without treatment, suffering very little and with little or no loss of weight. Sooner or later, however, overexertion and error in diet or some unknown cause, brings on what seems like a bad cold or an attack of grippe or some such symptom. Then the temperature and cough grow worse, loss of strength or flesh go on rapidly and the patient either dies of the attack or makes an imperfect recovery, to go much as before the attack, but upon a lower physical plane. The more advanced the lesion, the more severe and frequent the exacerbations. In the treatment of many cases I have found that they are most successfully handled as follows:

The patient is put to bed upon an exclusive milk and Bovinine diet; the quantity of milk and Bovinine is rapidly increased until the patient is taking from four to five quarts of milk and from four to six ounces of Bovinine each day. Under this complete and full nutrition, better results can be obtained than by any other line of treatment.

### THE THERAPEUTIC VALUE OF PEPTO-MANGAN (GUDE).

By DR. VEHMEYER, Haren, Germany.

The number of older iron preparations is so considerable that it seems on first sight desirable to weed out some of them, rather than to add to the list. If in spite of this the newer preparations have gained the upper hand, the cause must be sought, not in the attractions of novelty, but in the force of success. Hematogen, which is known to almost every one, has been so popularized and so extensively used that there seems to be a disposition already to value it less for its blood-forming power than for its appetizing, anti-scurfous and roborant action.

While I am persuaded of the value of this remedy, which I have prescribed quite frequently, and fully appreciate its merits, I have not been able to confirm the statements of those who esteem it on account of its being well tolerated, and have reached contrary conclusions on this point. The custom of many clinicians and experienced practitioners is not to interrupt at once ferruginous medication after the disappearance of the chief symptoms, but to continue it for some time, is in many instances impossible with hematogen. It has repeatedly happened to me, more often in adults than in children, that the patients refuse to continue the use of hematogen after taking the first bottle. They state that it is too powerful and too satiating, and this is the case, not only with irritable and sen-

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sitive persons, but those who have an energetic and resolute disposition, and who can be persuaded to resume its use, but finally manifest such a decided repugnance towards the remedy that their wishes must be gratified and another preparation substituted. In such cases I was led to resort to Pepto-Mangan (Gude), which I must credit with being much better tolerated and more agreeable. My observations extend now over a large field, comprising patients of various ages and conditions of life, so that I am able to formulate a reliable opinion of this preparation in the following conclusions:

1. Pepto-Mangan (Gude) is incontestably a blood-forming preparation, and in this respect is fully equal to every other preparation.

2. Its use is therefore recommended in all those diseases in which, through an increase of blood and improvement of its quality, a cure or a beneficial influence upon the organism is to be expected; as for instance, in chlorosis, anæmia, leukæmia, in chronic diseases of the respiratory organs, in many digestive disorders, especially after diarrhoeas, and in convalescence from various diseases, especially in weak and anæmic women after childbirth.

3. Owing to its great palatability and tolerance this preparation does not require any correctives, and is adapted especially in obstinate and protracted disease, in nervous, neurasthenic, and all other persons who are unable to take other iron preparations even for a short time. In people who require iron and are afflicted with nervous dyspepsia Pepto-Mangan (Gude) is not only by far the best ferruginous preparation, but at the same time a stomachic which

has a most favorable influence upon the secretory functions of the stomach.

4. Its blood-forming and in general curvative properties depend both upon the direct introduction of iron and upon its power of stimulating the appetite and digestion. Owing to its fortunate composition this preparation deserves a general symptomatic employment.

5. Unpleasant by-effects are excluded.

Pepto-Mangan (Gude) therefore constitutes a valuable addition to our list of remedies. I prefer this preparation, which has never left me in the lurch, to all similar products and am persuaded that within its field of indications it will prove of equal service to others. As regards the dose, its is advisable in general to follow the printed directions, although in individual cases it may be exceeded without the least untoward effects; for it is one of the prominent advantages of the preparation, that while exhibiting in full its curative effect, it never satiates or becomes repugnant, but permits of administration according to requirements, for a short period as well as many months, and that it is equally well tolerated by children and adults of both sexes without exciting the least aversion.

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#### DYSENTERIC CONDITIONS.

Report of a case by W. MUNSON, M. D., Washington, D. C.

The advanced age of this patient, she being 86, makes it most interesting. She had suffered from enteric conditions for a number of years, and when I was called in, was very weak.

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**S** UPERIOR  
TO  
PEPSIN

**INGLUVIN**

*FROM THE VENTRICULUS CALLOSUS GALLINACEUS*

**Has an unrivalled reputation. Established by over twenty  
years of use by the Profession of the World.**

**POWDER OR TABLET FORM.**

**A SPECIFIC FOR VOMITING IN GESTATION.**

**A REMEDY IN INDIGESTION, DYSPEPSIA, ETC.**

**May be used with unvarying success in all cases of**

**STOMACH TROUBLES**

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**INTRODUCED BY**

**WM. R. WARNER & Co.**  
**PHILADELPHIA.**

**Branch Houses—New York, Chicago, New Orleans.**

**SAMPLE ON REQUEST.**

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It was a critical case. No treatment up that time had afforded more than temporary relief, and her age and weakness rendered great care in the treatment necessary. I decided to try Glyco-Thymoline, as it had given me good results in intestinal treatment of children, and began with tablespoonful doses, slightly diluted, given internally. The result of its good action was manifest at once in arresting acid fermentation and restoring the stomach to its normal alkaline condition. Very soon the inflammation of the bowels was reduced, the stools solidified and became less frequent, and there was a marked improvement in stomach and intestines.

I was encouraged to continue the treatment and did so, using nothing except Glyco-Thymoline, and in a very short time had the satisfaction of seeing the patient entirely cured. That was nearly a year ago, and there has been no return of the trouble. With the relief of this dysenteric condition her general health has greatly improved, and she has gained in strength, so that the use of Glyco-Thymoline has undoubtedly prolonged her life. I find it of great value in intestinal treatment and give it a large use.

Eye and Ear practice in Los Angeles, Calif., is advertised for sale on page 24 of the JOURNAL.

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## ETHICAL PREPARATIONS

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# Almost a Specific in Epilepsy

**DIOWBURNIA**, the Unexcelled Uterine Tonic, Alterative, Antispasmodic and Anodyne, indicated wherever a Uterine Tonic is required.

**VALUABLE COMBINATION**—One part **Neurosine** to two parts **Diowburnia**, in female neuroses, eclamsia, melancholy, ovarian neuralgia, anemic nervousness, etc.

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Clinical experience has proven that **NEUROSINE** is the most effective Neurotic, Anodyne and Hypnotic.

**A VERY EFFICIENT NERVE CALMATIVE.** This is the conclusion of the many Physicians prescribing **NEUROSINE**.

Indications: **Neurasthenia, Insomnia, Hysteria, Nervous Exhaustion, Neuralgia, Chorea, Migraine, Restlessness of Fevers, Convulsive and Reflex, Neuroses, etc.**

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**FREE:** Perpetual Visiting List, Lock Bill File and full size bottles of **Neurosine, Diowburnia and Germiletum, Literature and Formula** furnished to Physicians, they paying express charges.

**DIOS CHEMICAL CO.**

**St. Louis, Mo.**

*No physician can afford to be indifferent regarding the accurate filling of his prescription.*

## READING NOTES.

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### SPECIAL DIRECTIONS FOR USE OF THE K. & O. BERMING- HAM NASAL DOUCHE.

One of the objects in the application of Glyco-Thymoline (Kress) to the nasal cavity is to retain it in direct contact with the membrane for at least two minutes; this can be done very simply and effectively as follows:

Put into the Douche one or two teaspoonfuls of Glyco-Thymoline (Kress) filling it with warm water (never use cold). With the index finger over the inlet control the flow, insert the nozzle into the nostril and hold the head well back. While allowing the solution to run into the nose, breathe through the mouth (pant, as it were); this closes up the passage into the throat and enables you to fill the entire nasal cavity. As soon as it is full, take the Douche away, pinch the nostrils together and throw the head well forward; hold the solution in the nasal cavity for a couple of minutes and repeat in the other nostril. Clear the head gently to avoid forcing products of inflammation into the Eustachian tubes, as the Glyco-Thymoline (Kress) loosens up all the catarrhal crusts.

Do not blow the nose until you have thoroughly cleared the nose and throat.

If the catarrhal condition affects the throat, gargle with one or two teaspoonfuls of Glyco-Thymoline (Kress)

diluted with a tablespoonful or two of hot water.

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The Waterbury Chemical Company of Des Moines, Iowa, who are manufacturers of Waterbury's Metabolized Cod Liver Oil (Tasteless) have lately opened up foreign trade in a number of South American countries, West Indies, and the island of Cuba. This preparation has met with most phenomenal results and is conceded to-day to be the most powerful nutrient tonic on the market, and is used in many of the largest government and state institutions and in many of the foreign hospitals.

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In the wasting diseases, as well as in rickets, scrofula and marasmus, it is of the greatest importance that a remedy be selected which will quickly check the pathological condition, and restore the organism to the normal without producing digestive or other functional disturbances. Cod liver oil has always stood first in the category of remedies calculated to bring about this desirable result, but unfortunately its peculiar odor and taste are features which are quite often objectionable to patients. Hagee's cod. ol. Morrhuae comp. is an elegant preparation, containing all the essential therapeutic properties of cod liver oil and combined with tissue-building chemicals (Hypophosphites of Lime and

*No physician can afford to be indifferent regarding the accurate filling of his prescription.*

Soda) and aromatics, which renders it agreeable to the palate.—American Journal of Dermatology.

### BOTH FOR PRESERVATION.

In conversation the other day a prominent lawyer remarked to a physician of repute that the Plant estate, amounting to some \$40,000,000, would bring the lawyers about \$1,000,000 as fees. The doctor asked the lawyer:

"Mr. F., suppose Mr. Plant were dying, but, there being a chance of saving his life by a difficult operation, a surgeon should operate and save Mr. Plant's life, would that surgeon be justified in sending in a bill for \$100,000?"

The immediate answer was: "Certainly not."

"Well," asked Mr. M., "how is it that the lawyers can charge such large fees?"

"Because," replied the advocate, "a

lawyer's fees are fixed by the courts."

And the celebrated physician, whose office fee of \$10 is often grudgingly paid, remarked:

"You lawyers have solved the problem of self-preservation, while we are spending our time in the preservation of others."—Omaha Bee.

### PAN-ZIN-OID.

This form of preparation is a perfect digestant containing all the digestive ferments as they naturally exist. It is far superior to any uncombined pepsin, and is free from any diluent detrimental to digestion, and possesses the further advantages of being non-hygroscopic, palatable, and odorless. Its indications are familiar to all practitioners.

Recent clinical reports and samples free to physicians.

THE FITCHMUL COMPANY,  
Concord, N. H.

# URISEPTIN

**Is the SUCCESSFUL Urinary Antiseptic**

**Liberates Formaldehyd slowly in the kidneys  
Makes the Urine Antiseptic  
Keeps the Urinary Tract Aseptic  
The only Urinary Antiseptic that has soothing and diuretic action**

FORMULA — Each fluid ounce contains 24 grains of Lithium Methaminete (Lithium Salt of Formaldehyd) dissolved in Aqueous Extract of Corn Silk and Couch Grass.  
DOSE — One or two teaspoonsful, three or four times a day, preferably in hot water

Indicated in.	PROSTATITIS	GARDNER-BARAD CHEMICAL CO. CHICAGO, U.S.A. 42 RIVER STREET	RHEUMATISM	BACTERIURIA
	PYELITIS		CALCULUS	UREMIA
	NEPHRITIS		GOUT	PNEUMONIA

We will be pleased to send you the name of a physician in your neighborhood who is using Uriseptin successfully, or will send you an 8-oz. bottle (free to patients \$1.00) if you send us 25 cents to pay express.

*No physician can afford to be indifferent regarding the accurate filling of his prescription.*

## "PRURITUS."

San Francisco, Cal.

R. A. CLEMENT, M. D., reports case of Pruritus Vulva: Washed thoroughly for four days with Glyco-Thymoline diluted; also used tampons saturated with Glyco-Thymoline full strength for two weeks; no return of itching. Patient came again, used as before. Four weeks have elapsed and no return of symptoms.

Toledo, Ohio.

J. W. MAWER, M. D., states: I employ Glyco-Thymoline in pruritus vulva and I want to say that it is excellent. It allays the itching in a wonderful manner and I think it has no equal for the purpose.

Indianapolis, Ind.

W. HAMPTON CALDWELL, M. D., writes: I have recently had a case of pruritus ani, upon which I had exhausted my line of remedies, but on applying Glyco-Thymoline in full strength on cotton and keeping it in contact with the rectal tissue, produced perfect relief in twenty-four hours.

Philadelphia, Pa.

J. W. MILLICK, M. D., reports: Young lady suffering from itching of vulva (pruritus); case was severe, occurring a week before each period. She was treated with Ac. Carbolic, but it only seemed to aggravate the trouble; finally I ordered small douches of Glyco-Thymoline, strength 50 per cent. solution; relief was immediate and the patient reported herself completely cured.

Canton, Miss.

LANDON C. CHEEK, M. D., writes: Be assured that I highly appreciate the favor of your sample bottle of Glyco-Thymoline, which I received a few days ago. Already I have used it on an irritable and exceedingly annoying case of pruritus with very best results. The several other remedies that I have used for the past three weeks afforded no relief. I would say that your Glyco-Thymoline is almost a specific in pruritus. It acts almost like magic.

Venedy, Ill.

E. BOERNER, M. D., writes: I will state that I had several cases of pruritus ani, in which I used the Glyco-Thymoline. It alleviated every time, and I repeat it whenever it is necessary.

St. Louis, Mo.

J. F. SUTCLIFFE writes: I have for over twenty years been affected with pruritus ani; have been treated by specialists on skin diseases and have tried everything recommended. About two months ago, it was necessary for me to get up two or three times in the night to apply local applications for the intense itching. After learning the composition of Glyco-Thymoline concluded to try it. To my agreeable surprise after two weeks' treatment, was en-

tirely cured. I applied it at night on a piece of cotton laid between the folds of the buttocks. Since then have treated two other cases of pruritus, one being pruritus vulva, with the same results. The first application gives immediate relief.

Wilson, Ky.

J. A. HUMPHREY, M. D., writes: I have obtained very pronounced benefit from the use of Glyco-Thymoline after many other applications had failed, in the treatment by injection of a chronically inflamed rectum, with attending pruritus ani.

Louisville, Ky.

R. E. SIEVERS, M. D., states: I have been using Glyco-Thymoline nearly every day. I find it the best agent I have ever used for allaying pruritus of the anus and vulva and for Eczema. I think it will be "the treatment." I have given it a thorough trial in Eczema and it gives immediate results, keeps the parts aseptic and prevents them from cracking. I usually combine Glyco-Thymoline with Oxide of Zinc in the Eczema cases.

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Oswego, N. Y., April 15th, 1905.

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Gentlemen:

Yours of March 16th to hand. The sample tablets were duly received. After some delay we were able to get a supply through a jobber, and now have them as needed. I had a case of general anasarca, albumin in very large quantity and great disturbance of the circulation, due to uncompensated valvular lesion, in which I had exhausted all the stock, orthodox remedies without benefit; in fact the patient was steadily getting worse, voiding only 12 to 20 ounces of urine and breathing rapidly and with great distress nearly all the time. I expected an early demise and commenced the treatment that you recommend only as a dernier resort. Within three days there was improvement which has steadily continued. The elimination of urine gradually increased to 30, 40, then 60 to 80 ounces a day, the tumultuous heart was steadied, breathing improved in quality, insomnia disappeared, albumin lessened. Now, after two months or a little less, the patient is practically well. There is no unsteadiness of the heart; the breathing is easy and he goes to bed and sleeps all night; there is no edema, and there is no albumin in the urine, of which he voids about 50 ounces per day. He is now taking four tablets a day and expects to get to his business as soon as the weather

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moderates a little. I had a parallel case, only more chronic, with an acute exacerbation, in which there were almost similar results, but not quite as satisfactory, owing first to the chronicity of the kidney trouble, an old interstitial nephritis, and secondly to the intractability of the patient; but on the whole the results were satisfactory, and much more so than I could expect from any other line of treatment that I know of.

The ordinary diuretics and heart remedies disturb the stomach to a marked degree, whereas there seems to be improvement when taking the remedies suggested in your booklet.

Within a few days I have put another patient on the treatment. His trouble was inability to make the slightest exertion without the most dangerous and distressing form of dyspnea; in this case there was very pronounced regurgitant murmur, general venous congestion, no albumin or edoema. Six weeks' treatment had made very little improvement; urea was excessive, urine about 20 ounces. One week, taking four tablets per diem, has made a marked improvement.

Yours truly,

(Signed) J. K. STOCKWELL, M. D.

#### SCROFULOSIS, WITH INVOLVEMENT OF THE SKIN.

The form of scrofuloderma most frequently seen in practice has its origin in the lymphatic glands of the neck, axilla and inguinal region. Under the skin glands may be felt as firm, movable, tolerably numerous bodies. Their growth is slow and indolent. Occasionally here and there a gland may attain considerable size, which either remains indolent for a long time or undergoes spontaneous resolution, or more frequently terminates in suppuration. Preceding the suppurative process the overlying skin becomes thin and takes on a violaceous color. Later the skin breaks down and after rupture there is a discharge of thin, curdy pus mixed with blood. Sinuses form and the skin is undermined and perforated, leading to the formation of strenuous ulcers. In shape the ulcers are oval or linear and show purplish, undermined edges. Pale, unhealthy granulations cover the ulcerous surfaces.

In some cases, according to Eve, a conglomeration of glands may be detected which show no tendency to fuse or become matted together. Another form of strumous dermatitis is the so-called scrofuloderma, which commences as small nodules and gradually attains a considerable size. Hallopeau has observed that these gummata occur along the course of the lymphatics of a limb. Another skin manifestation of scrofula is chronic eczema of the skin or scalp found in patients who have a tuberculosis diathesis. Eczema of this variety is apt to be scaly and indolent, though very stubborn, and shows little response if meas-

ures are directed to the local condition alone and the general state of nutrition ignored.

The above described conditions are most frequently encountered, according to Holt, among children from three to ten years of age, and he recommends the very best surroundings as the "sine qua non" of treatment. This includes diet, climate, fresh air. The indolent, local condition should be let alone, and the parts merely kept clean. For internal medication the syrup of the iodide of iron and cordial of cod liver oil (Hagee) should be the physician's main reliance, and occasionally arsenic should be used to supplement the other tonics mentioned.—American Journal of Dermatology.

#### TWO CASES OF FUNCTIONAL STRABISMUS.

B. D. St. John Roosa's first case is that of a girl, aged eleven, who, after an attack of what was called, erroneously the author thinks, cerebral meningitis, recovered from the other symptoms but continued to have functional strabismus. Treatment of the squint by glasses proved ineffectual and the interna were therefore stretched and divided under ether according to the method of Panas. For a time there was intermittent strabismus with double vision after the operation, which did not yield to treatment, but finally, two and a half years later, after all treatment except the use of the stereoscope and correcting glasses had been dropped, the intermittent strabismus ceased, and has not returned. The other patient was a boy four and a half years old, who had functional, convergent strabismus and amblyopia ex anopsia, which was cured by the use of glasses and exercises which involved exclusion of the good eye at intervals, and the use of the stereoscope. Now, at the end of eight years, the strabismus has disappeared, though correcting glasses are still worn. The author lays much stress on the thoroughness of the drilling in this case, through which the cure was effected.—Medical Record

#### REPORT ON THE TUBERCULOSIS CLINIC AT THE GOUVERNEUR HOSPITAL.

Stella Bradford and N. Gilbert Seymour first describe the considerations which led to the establishment of a separate tuberculosis clinic at the Gouverneur Hospital, and the various stages through which it passed until the present perfected routine was elaborated. Now sixty to ninety cases are treated each week and three hundred and thirty-eight patients have applied for treatment from October, 1903, to June, 1905. Two hundred of these are men, and almost one-half of the total number are Russians. The general plan of treatment and of surveillance of the patient by a nurse, who visits them at their houses, is described, and

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the following results are reported: Of the three hundred and thirty-eight cases admitted during the sixteen months of the clinic, eighty-five are still under observation, one hundred and twenty have disappeared, fifty-two have gone to hospitals, the country, or to their homes in Europe, fourteen have been referred to other clinics as non-tuberculous, and nine have died. Fifty-one cases have been discharged for insubordination. Seven cases have been discharged as "apparently cured," though they are still requested to report occasionally for observation. Such cases are those in which all constitutional symptoms and expectoration with bacilli have been absent for a period of three months, and the physical signs are those of a healed lesion. The authors believe that the clinic has accomplished four definite and excellent results: (1) It has withdrawn the tuberculous cases into a class by themselves, thus relieving the overcrowded medical clinic and providing some protection to non-tuberculous patients. (2) It has provided a place for the systematic treatment of ambulant cases of the disease in a district of the city thickly populated and extensively exposed to the contagion. (3) It reaches cases heretofore untreated, or treated irregularly and unsystematically. (4) The patients so treated have become a source of education in their homes rather than a menace to their associates.—Medical Record.

#### THE FOOD FACTOR IN URICEMIA.

Francis Hare supplements a previous article on this subject by a further exposition of his views on the nature of gout. He believes that in acute articular gout there is primarily a condition of oversaturation of the blood with unoxidized carbonaceous material which he calls hyperpyremia. This is supposed to involve progressively increasing uricemia through the inadequate renal secretion of uric acid which is associated with the hyperpyremia. The acute attack of gout is accompanied by high fever, which involves an increased combustion in the nitrogenous tissues and relieves the hyperpyremia, while the dispersion of the hyperpyremia in turn terminates the renal disability and permits free excretion of uric acid, and in this way a temporary restoration to approximately normal conditions is secured. He therefore terms acute articular gout a recurrent acarbonizing process dependent on and adapted to disperse hyperpyremia and secondary uricemia, and says that it is in the strict sense of the terms a conservative pathological function. The various heterogeneous dyspeptic, bilious, nervous, etc., symptoms usually associated with gout are all dependent on hyperpyremia and not directly on the uricemia or the arthritic attack. The present paper is devoted to an analysis of the conditions, such as diet, exercise, pyrexia, neuroses, etc., which induce pyremia or uremic variations.

He concludes by saying that there seems little doubt that uric acid excretion depends directly upon the introduction of uric acid-forming material, and inversely upon the degree of pyremia. There will thus be at least a double column of variations in the excretion of uric acid. But since on a mixed diet, the introduction of uric acid material is for the most part approximately concurrent with the increase of pyremia due to meals, it follows that the resulting opposite variations in uric acid excretion will overlap and tend to obscure each other. The argument for the twofold causation of uricemia and uric acid excretion, seems appropriately clinched by the following two pertinent observations: (1) The delayed excretion of uric acid which in the gouty follows the ingestion of uric acid-forming material. (2) The uniformity of uric acid excretion during starvation.—Medical Record.

#### CYSTOSCOPY AND URETHRAL CATHETERIZATION IN GYNECOLOGY.

Henry Dawson Furniss says that by a careful history, a thorough physical examination, and a painstaking urinalysis, we may be able to make a diagnosis of the nature of a urinary disease and its location, but very often not; and it is just here that cystoscopy, meatoscopy of the urethral orifices, and ureteral catheterization furnish their most valuable aid. He discusses the technique of the examination and gives the preference to an instrument of the water dilating variety, direct view with catheterization attachment, as with this all of the bladder can be examined except the anterior wall, which is seldom affected, and catheterization of the ureters with a direct view instrument is far easier than with one of the prism type. The fact that there is some slight danger connected with the use of the cystoscope is pointed out, and it is stated that cases of tuberculous cystitis especially are much aggravated by intravesical manipulations. The application of the instrument in various ureteral and renal conditions is then described and the importance of the diagnostic information to be obtained in this way is emphasized. The subject of ureteral meatoscopy is given much importance, and the use of the ureteral catheter in hysterectomies, stricture of the ureter, etc., is described. The author recommends lavage of the renal pelvis for pyelitis, but believes that the cases of Bright's disease reported benefited by this means were really ones of pyelitis with a few casts in the urine, rather than cases of true nephritis.—Medical Record.

#### A CASE OF ACUTE HEMORRHAGIC PANCREATITIS.

Charles M. Tinney describes this case, which was that of a man forty-one years old, who was sick for a week with symp-

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toms interpreted by two consultants as being due to autointoxication and typhoid fever respectively. Acute pancreatitis was thought of but dismissed, as the epigastric pain was not sufficiently intense and on account of the duration of the illness. The symptoms comprised constipation, slight fever, epigastric pain, and tympanites. On the day of his death the patient was suddenly seized with excruciating pain in the epigastrium, went into collapse, and died a few hours later. At the autopsy the abdomen was found full of blood clots and serous fluid originating from the lacerated, indurated head of the pancreas, in which a large blood cyst had ruptured. There were other smaller cysts with clots in various stages of disorganization. There was no necrosis, but the liver was fatty.—Medical Record.

#### THE ABUSE OF BROMIDES IN EPILEPSY

Wm. P. Spratling says that years ago he became convinced that the bromides as generally administered did vastly more harm in the treatment of epilepsy than they did good, and his ten years' experience at Sonyea in the treatment of nearly two thousand cases has strengthened that conviction. The bromides do not always do harm, and they have a limited range of usefulness in their power of suppressing epileptic convulsions, but the author has never seen a case cured by the bromides alone. He has never given the bromide of potassium to an epileptic, and says that the cases must be carefully selected for the use of the other salts. At the Craig Colony the average dose of the drug is fifteen grains a day, five grains at a time. The author has analyzed twenty-seven patent nostrums for epilepsy, and has found that the basis of all of them was bro-

mide of potassium. If recoveries occur under the use of the drug, it is in spite of it and not on account of it. When used, the bromides must be prescribed with the greatest caution, and it is rarely necessary to push them to the point of producing acne. Their disadvantages are many and it is preferable to use other harmless depressants in their stead, and to treat the individual instead of one of the symptoms of his disease.—Medical Record.


#### HOSPITAL BUILDING IN THE PHILIPPINE PROVINCES.

Donald G. McCaskey describes and illustrates the building of a bamboo hospital at Buena Vista in the Medical Record of September 2. The building was a one-story structure with a floor area of 20 x 35 ft., divided into four rooms. Eighty men were occupied ten full days in its construction; in America a much smaller number of men could have completed it in two or three days. When once built the hospital was cool and comfortable, and admirably adapted to its purpose.

The Waterbury Chemical Company, Des Moines, Iowa, are mailing out to every physician in the United States and all of the American possessions a photograph of Dr. Geo. Brown, ex-president of the American Anti-Tuberculosis League, with his autograph letter endorsing Waterbury's Metabolized Cod Liver Compound. This is one of the highest honors that could be conferred upon any manufacturer, to have such endorsement of their preparation. This compound is meeting with wonderful success with the entire medical profession and is worthy of a thorough trial.

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## READING NOTES.

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### NUTRITION IN HEART LESIONS.

A most essential factor in the handling of cardiac lesions, either functional or organic, is proper nutrition. In fact I know of no other disease where failure attends the proper selection of remedies so often as in cardiac trouble, the cause being due to improper feeding. In functional derangements, the most carefully selected remedies fail to bring about the desired result if the diet of the patient be improper or he be overfed, while in structural lines we are defeated before we begin if we neglect the nutrition. When we take into consideration that nearly every functional disturbance of the heart, in perhaps forty per cent. or more cases, can be traced directly to gastric intestinal disturbance, we will all the more rightly appreciate the great importance of a proper diet. In handling these nervous conditions or functional abnormalities, one can accomplish very little with medicine unless his patient's diet is properly selected. The diet should be one requiring little or no digestion and yet supplying in proper proportion a full quantity of the elements of an absolute nutrition. When we come to prescribe for structural lesions, we find the diet most important, for every organic lesion is not only aggravated by faults of digestion, but the nutrition of the organ itself relies largely upon the diet furnished. If we take into consideration the various valvular de-

rangements, it will be found that the heart is able to do its work owing to compensary changes that have gradually taken place, and that the case only becomes grave when compensation fails.

The chief aim in the treatment should be to maintain this stage of compensation, and while the drugs usually employed in these conditions bring about desired results in part, complete results are not obtained unless proper and complete nutrition is supplied. In cardiac enlargement the same state of affairs prevails. To maintain the heart, when hypertrophied, a uniform degree of nutrition is most essential. In atrophy and dilatation we should endeavor to build up the heart tissue and such food as will supply the necessary elements should be selected. In fatty conditions of the heart a proper diet is most essential and should receive the physician's careful attention.

In the handling of all cardiac conditions, and my experience has been a large one, I have found that Bovine was the ideal food and tonic. It does not over-stimulate the heart but supplies sufficient stimulation. It gives to the system a proper proportion of every element of nutrition and a normal amount of assimilable iron. Each individual case must be studied and the quantity of Bovine administered, suited to that case.

T. J. BIGGS, M. D.,  
Stamford, Conn.

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# READING NOTES

## The Potency Period of Diphtheric Antitoxin.

One of the empirical beliefs concerning curative serums was that the "life" or "keeping quality" of the antitoxin of diphtheria was of short duration. A demand for "fresh" serum has arisen in consequence, and the misconception has gone so far that many physicians have refused to use an old serum, or one on which the arbitrarily-set time-limit of the manufacturers has expired. This practice is erroneous, and the theoretical ground upon which it is based is fallacious. Incontrovertible proof of this is afforded by the results of careful and prolonged investigations and the testimony of numerous competent authorities is adducible.

As far back as 1898, Abba, Director of the Municipal Hygienic Institute of Turin, reported experiments to show that antidiphtheric serum retained its potency unimpaired at least eighteen months after preparation. In 1900 McFarland recorded an essentially similar opinion, extending the period of undiminished potency to two years. Chiadini, in 1902, published experimental evidence to show that the antitoxin kept well for at least eighteen months and began to deteriorate a little at the end of two years. A censure being attached to a certain sample of diphtheric antitoxin prepared in the Pasteur Institute because of its alleged deterioration, Roux announced (1902) that preference was given in the Institute to old serums. At this time also Libbertz had occasion to reply to a criticism directed against a ten-month-old serum, and stated that while serums do diminish in antitoxic value, the loss occurs in the first two or three months, and beyond this they can be kept for years without further impairment.

Recently this vitally important problem has been attacked anew with the opportunity afforded by longer intervals since the serums have been procured, and with more uniform methods of testing and retesting. Testimony in favor of the remarkable stability of diphtheric antitoxin is elicited to sustain the views of the earlier investigators. Thus Marx, of the Royal Institute of Experimental Therapy in Frankfurt, in which the governmental examination for the German Empire is conducted, after an exhaustive study of 1138 lots of antitoxin, publishes his observations in the *Festschrift* in honor of Robert Koch's sixtieth birthday. He shows conclusively that the ma-

jority of serums suffer no antitoxic depreciation even after a lapse of two to five years. The maximum loss of the occasional serum is 33.13 per cent., and this diminution usually occurs soon after the serum is obtained from the horse. Marx makes this significant statement in concluding his report—"Any mistrust of old serums is unfounded." American serums have been studied by Miller, who tested many samples returned from the market. His results coincide essentially with those obtained by Marx, and he concludes that "The demand for fresh serum is not justified," and urges that no physician should postpone the treatment of a case of diphtheria awaiting fresh serum, simply because the time-limit on that in hand has expired.

With this array of competent scientific authority, and after a series of confirmatory experiments in our biologic laboratories, we have reached the conviction that the arbitrarily-set time-limit of one year can be safely extended. We have accepted the guidance of facts ascertained by exact scientific research which disprove obsolete traditions, and which should serve to correct erroneous practices. We bring this testimony to the physician in the conviction that he can without jeopardy to himself or his patient follow its dictates.

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## IMPORTANT ANNOUNCEMENT.

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We have added to our present strong editorial force (all of which are retained, and with no change in management, or any financial change whatever), Dr. Wm. J. Robinson of New York City, who will conduct a department of "Dermatology and Genito-urinary Diseases;" Dr. Emory Lanphear of St. Louis, who will conduct a department of "Surgery, Obstetrics and Gynecology," and other departments will be added as arrangements can be made therefor.

With this additional force, the makeup of the journal will be improved in many ways. The best minds in this country and Europe will contribute articles which will be of inestimable value to the general practitioner.

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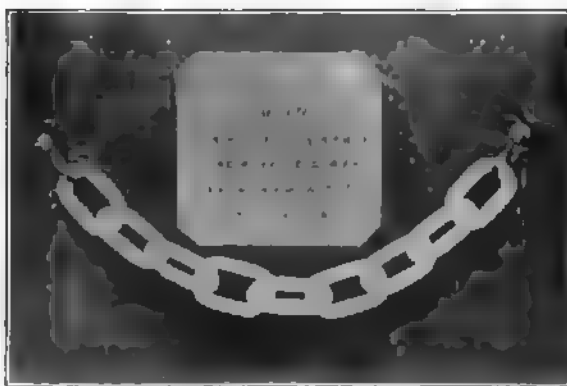
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We are opposed to the secret nostrum and the rum remedy, decrying their exploitation to the profession, and more especially to the people, as a body-wrecking, soul-destroying crime that should be suppressed.

We believe in and stand for the honest doctor and the honest pharmacist; their interests are mutual, and we decry all attempts to estrange them.

We are fully alive to the great awakening of the public conscience now going on, proposing to stand on the very firing line of the movement for professional betterment and the public good, never taking a back step till a complete victory is won, and then we'll stick, too. We shall appreciate your cooperation.

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#### **PNEUMONIA.**

"The pneumonia season is rapidly approaching. Soon the various journals will be full of the statistics of past years in regard to the prevalence and fatality of this disease. The pathology and etiology will be thoroughly gone over, but, judging by the past, most writers will have very little that is encouraging to say as regards treatment.

"Several points, nevertheless, must be kept in mind. Whatever drugs are used internally (and this depends very much upon the individual case), the patient must have plenty of fresh air. Do not be afraid of his taking cold on account of the cold air blowing across his face. It is now considered that this is impossible. Also, whatever drugs may be used, keep the body warm with suitable clothing, and use externally some preparation which will cause a comparative lessening of blood-pressure in the lungs. Cold applications, besides lowering the vitality of the patient, cause a depletion of the superficial vessels and consequently increase the hyperemia in the lungs themselves. Our attention then should be drawn, per contra, to hot applications. To the most of these there are very great practical objections, such as their inconvenience, their tendency to grow cold very rapidly, and the fact that they must frequently be renewed, thereby disturbing the patient's rest to his manifest detriment.

"We have found but one form of hot application which seems to us to entirely fill the bill, and that is Antiphlogistine. By its means the vitality of the body is conserved, the blood is attracted to the surface and away from the lungs (its hygroscopic action remarkably enhancing this effect), and the tone of the heart's action is maintained. Besides this, its frequent renewal is not necessary, and the patient's rest is not thereby disturbed. Practically we know that by its use the patient is made much more comfortable, the fatality is much decreased, and if abortion of the disease is possible, we believe it can be accomplished better by this means than by any other."—Kansas City Medical Record, October, 1905.

#### **Every Little Bit Helps.**

"One of the spiciest little journals that comes to the Secretary is the American Medical Journalist. It contains many very readable articles, and its last issue seems to be chiefly directed against the various transactions of the American Medical Association, especially against the Journal. We rather think that there is a great deal of truth in what it has to say and advise all who wish to know both sides of the question to read it. It is published by D. A. O'Gorman, of New York."—From the Journal of the South Carolina Medical Association (published under the direction of the Publication Committee of the South Carolina Medical Association), Charleston, S. C., Sept. 21, 1905.

*No physician can afford to be indifferent regarding the accurate filling of his prescription.*



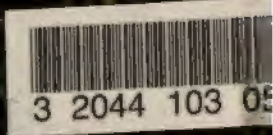




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